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Before the
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LIBRARY OF CONGRESS
Washington, D.C.

In the Matter of:	Docket No. 21–CRB–0001–PR (2023–2027)
DETERMINATION OF RATES AND TERMS FOR MAKING AND DISTRIBUTING PHONORECORDS (Phonorecords IV)	

WRITTEN DIRECT STATEMENT OF COPYRIGHT OWNERS

VOLUME VI.F

PUBLIC VERSION

COEX-8.1

MID-YEAR 2021 RIAA REVENUE STATISTICS

Joshua P. Friedlander | Senior Vice President, Research and Economics, RIAA

Recorded music revenues in the U.S. grew 27% in the first half of 2021 versus the prior year, from $5.6 to $7.1 billion at retail value. Paid subscriptions continued to be the strongest contributor to growth, comprising nearly two-thirds of total revenue, and more than 80 million paid subscriptions for the first time. At wholesale value revenues rose 25%, from $3.7 billion in 1H 2020 to $4.6 billion in 1H 2021. The effects of Covid-19 continued to affect the industry, and year-over-year comparisons are significantly impacted by store closures, tour cancellations, and other disruptions from both 2020 and 2021.

COEX-8.1

FIGURE 1

U.S. MUSIC INDUSTRY MID-YEAR REVENUES

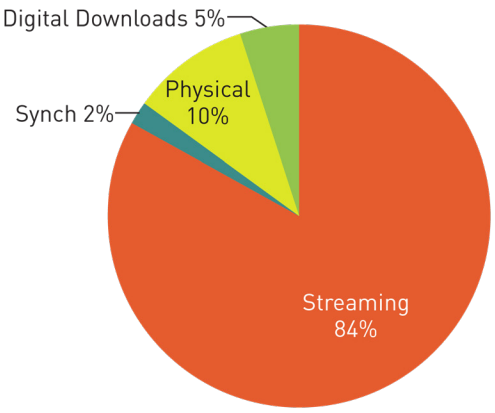
Streaming

Revenues from streaming music, a category including a wide range of formats such as paid subscription services, ad-supported services, digital and customized radio, and licenses for music on Facebook and digital fitness apps, grew 26% to $5.9 billion in the first half of 2021. Streaming accounted for 84% of total revenues for the period, about the same level as for 1H 2020.

FIGURE 2

U.S. MUSIC INDUSTRY REVENUES 1H 2021

Source: RIAA



*Figures don't add to 100% due to rounding

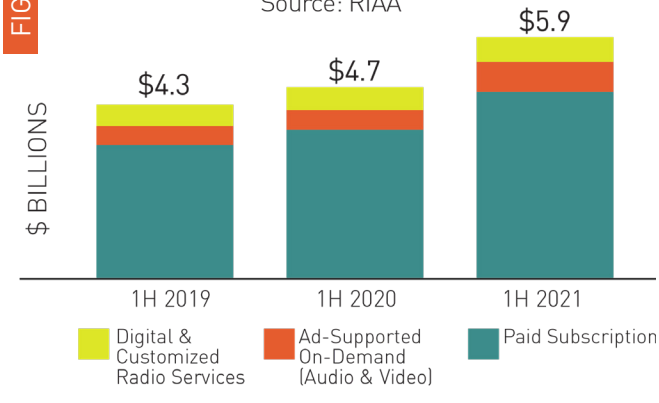
Paid subscriptions continued to account for the largest share of recorded music revenues in the U.S., up 26% year-over-year and totaling $4.6 Billion in 1H 2021. They accounted for nearly 2/3 of total revenues, and 78% of streaming revenue. That carries forward a multiyear trend of strong growth in this area extending beyond the unique circumstances of 2020 – in the two years since 1H 2019, paid subscription revenues have grown a total of 40%.

This total includes $452 million in revenues from "Limited Tier" paid subscriptions (for services limited by factors such as mobile access, catalog availability, on-demand limitations, or device restrictions). Those types of services accounted for 10% of subscription revenues, a slight increase versus 1H 2020.

FIGURE 3

U.S. MUSIC INDUSTRY STREAMING REVENUES

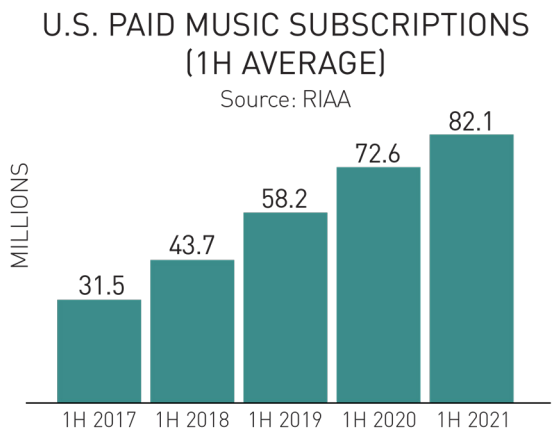
Source: RIAA



RIAA data analysis by **Joshua P. Friedlander**,
Senior Vice President, and **Matthew Bass**, Manager

The number of paid subscriptions to on-demand music streaming services continued to increase. For 1H 2021, the average number of subscriptions reached a record 82 million, up 13% compared with 73 million for 1H 2021. These figures count multi-user plans as a single subscription, and exclude limited-tier services.

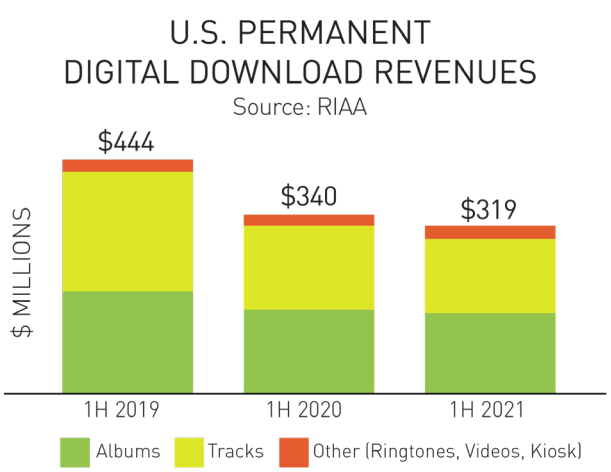
FIGURE 4



Advertising supported on-demand streaming music revenues (from services like YouTube, the ad-supported version of Spotify, and Facebook) rebounded significantly in 1H 2021, growing 54% to $741 million. This category only grew 3% the prior year as it was significantly impacted by the post Covid-19 decline in advertising revenue growth across many forms of media. Even though these services account for hundreds of billions of streams to more than 100 million listeners in the United States, the category only accounted for 11% of total revenues.

Digital and customized radio service revenues grew 3% to $585 million in 1H 2020. This category includes SoundExchange distributions for services like SiriusXM and internet radio stations, as well as payments directly paid by similar services, included in this report as "Other Ad-Supported Streaming".

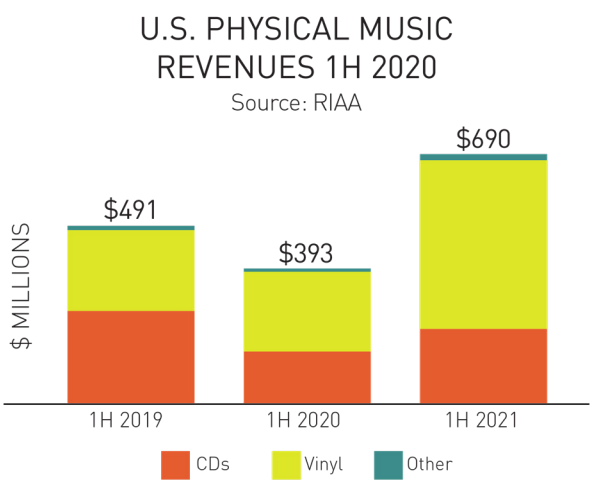
FIGURE 5



Digital Downloads

Permanent downloads declined both in absolute dollars as well as share of total revenue. In 1H 2021, revenues from digital downloads fell 6% by value to $319 million, accounting for 5% of total revenues. Revenues from digitally downloaded tracks and albums were down 12% and 4% respectively from the same period the prior year.

FIGURE 6



Physical Products

Vinyl records continued a remarkable resurgence in the first half of 2021. Revenues from vinyl albums grew 94% to $467 million, though the comparison versus the prior year includes a period in which retail stores were significantly impacted by Covid-19, and Record Store Day 2020 was delayed and did not occur in the spring (as it did in 2021). Revenues from CDs increased 44% to $205 million, but still remain 19% lower than they were in 1H 2019. CDs only accounted for 30% of physical revenues, while vinyl accounted for more than 2/3 of physical format revenues.

PLEASE READ THE COMMENTARY OF MITCH GLAZIER, CHAIRMAN AND CEO, HERE: MEDIUM.COM/@RIAA

NOTE – Historical data updated for 2017 – 2020. Formats with no retail value equivalent included at wholesale value. RIAA presents the most up-to-date information available in its industry revenue reports and online statistics database: https://www.riaa.com/u-s-sales-database

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MID-YEAR 2021
RIAA MUSIC REVENUE STATISTICS

For a list of authorized services see www.whymusicmatters.com

United States Estimated Retail Dollar Value (In Millions, net after returns)

DIGITAL SUBSCRIPTION & STREAMING		1H 2020	1H 2021	% CHANGE 1H '20 to 1H '21
(Units) (Dollar Value)	**Paid Subscription[1]**	72.6 $3,307.1	82.1 $4,130.6	13.0% 24.9%
	Limited Tier Paid Subscription[2]	$338.5	$451.5	33.4%
	On-Demand Streaming (Ad-Supported)[3]	$480.5	$741.3	54.3%
	SoundExchange Distributions[4]	$467.7	$487.0	4.1%
	Other Ad-Supported Streaming[5]	$97.5	$97.8	0.3%
	Total Streaming Revenues	**$4,691.3**	**$5,908.4**	**25.9%**
DIGITAL PERMANENT DOWNLOAD				
(Units) (Dollar Value)	**Download Single**	130.3 $158.8	114.4 $140.2	-12.3% -11.7%
	Download Album	16.4 $159.8	15.7 $153.8	-4.5% -3.8%
	Ringtones & Ringbacks	4.4 $10.9	3.6 $9.0	-17.1% -17.1%
	Other Digital[6]	0.8 $10.2	0.8 $15.7	-1.6% 53.6%
	Total Digital Download Revenues	**$339.7**	**$318.7**	**-6.2%**
TOTAL DIGITAL VALUE		$5,031.0	$6,227.0	23.8%
	Synchronization Royalties[7]	$128.7	$137.0	6.4%
PHYSICAL				
(Units Shipped) (Dollar Value)	**CD**	10.7 $142.7	16.1 $205.3	50.2% 43.9%
	LP/EP	9.1 $240.9	17.0 $467.4	85.7% 94.0%
	Music Video	0.4 $7.1	0.5 $10.6	22.4% 49.2%
	Other Physical[8]	0.1 $2.0	0.4 $6.8	217.7% 230.3%
	Total Physical Units **Total Physical Value**	**20.3** **$392.7**	**33.9** **$690.1**	**66.6%** **75.7%**
TOTAL DIGITAL AND PHYSICAL				
	Total Units[9] **Total Value**	**172.3** **$5,552.5**	**168.4** **$7,054.0**	**-2.3%** **27.0%**
	% of Shipments[10] Physical Digital	**1H 2020** 7% 93%	**1H 2021** 10% 90%	

Retail Value is the value of shipments at recommended or estimated list price
Formats with no retail value equivalent included at wholesale value

Note: Historical data updated for 2020

[1] Streaming, tethered, and other paid subscription services not operating under statutory licenses
Subscription volume is annual average number of subscriptions, excludes limited tier

[2] Paid streaming services with interactivity limitations by availability, device restriction, catalog limitations, on demand access, or other factors

[3] Ad-supported audio and music video services not operating under statutory licenses

[4] Estimated payments to performers and copyright holders for digital and customized radio services under statutory licenses

[5] Revenues for statutory services that are not distributed by SoundExchange and not included in other streaming categories

[6] Includes Kiosks, music video downloads, and starting in 2016 other digital music licensing

[7] Includes fees and royalties from synchronization of sound recordings with other media

[8] Includes CD Singles, Cassettes, Vinyl Singles, DVD Audio, SACD

[9] Units total includes both albums and singles, and does not include subscriptions or royalties

[10] Synchronization Royalties excluded from calculation

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CHARLIE SORREL BUSINESS 07.14.2011 08:51 AM

Spotify Launches in the U.S at Last

Finally, after seemingly a lifetime of waiting, Spotify has come to the U.S. The free, ad-supported music streaming service has been available in many European countries for years, but thanks to the tangle of interests that is international licensing, it has only just arrived on U.S shores. The offer is virtually the same as that [...]

Finally, after seemingly a lifetime of waiting, Spotify has come to the U.S. The free, ad-supported music streaming service has been available in many European countries for years, but thanks to the tangle of interests that is international licensing, it has only just arrived on U.S shores.

The offer is virtually the same as that in Europe. You can listen free to any track, on demand. This differs from services like Pandora which serve tracks like a radio station -- you only get to suggest which channel you listen to. Audio ads are served every few tracks, and you'll also have to contend with banner ads in the (free) desktop software.

To join Spotify, you'll need an invite (the first batch are being dished out by online influence tracker Klout). You can skip this tedious step, though, using that old fashioned universal lubricant -- money. Sign up for either the monthly Premium or Unlimited plans and you can walk straight in the door. Premium, priced at $5 per month, gives you as much ad-free music as you like. Unlimited ($10) adds offline storage of tracks and lets you use the Spotify client on your mobile device (the Spotify iPhone app is now available in the U.S App Store).

But Ken Parks, Spotify's Chief Content Officer and Managing Director of Spotify, stressed in an interview that they expected the free component to be a real driver of success — and that hammering out with the labels how to make that possible had been a big job in the two-ish years the company had been working on its U.S. invasion.

"Obviously we had to secure rights in this market," Parks said. "Spotify is really serious about the model that includes a really free experience, and we were keen that we preserved that intact when we came to the United States."So why would you choose to follow ten million European listener and choose Spotify? It's about two things: the software experience, and the catalog. Spotify already has millions of titles, and it's rare that you come across anything that is missing. Spotify will also scan your iTunes library and let you play these tracks in the Spotify app. Thus your weird and rare *Talking Heads* bootlegs can exist in the same playlist as the official releases.

Anyone who has used Spotify will tell you that it is fast. You press play and the music starts instantly. Even on a 3G connection (using the iPhone app), the response is almost immediate. In fact, the desktop app puts iTunes to shame in terms of speed, which is rather embarrassing for Apple.

Another compelling feature is Spotify Social, which lets you share tracks, and subscribe to the playlist of other Spotify users. Anything they share with you shows up in your inbox, along with an optional note. And if you sign into Facebook, any other

Spotify-using friends will show up in your "People" list.

COEX-
8.2

There are flaws. Spotify's recommendation engine, and its radio selections (supposedly Pandora-like auto-playlists) are pitiful. And there is also no sign of an iPad native version, over a year after the tablet's launch.

In the end, though, Spotify is just cloud music done right. You pay less per month than you would for a CD (remember those?), and get millions of songs on demand, with playlists synced across all your devices. I haven't used iTunes to play music in months.

Hello America. Spotify Here [Spotify]

See Also:- Facebook, Spotify Plan to Help Friends Listen Together

- Spotify Deals Point to Worldwide Movie-Streaming Service
- Spotify U.S Launch Barely Two Weeks Away: Report
- Spotify Will Launch in U.S. in Mid-July: Report
- Spotify Is the Coolest Music Service You Can't Use
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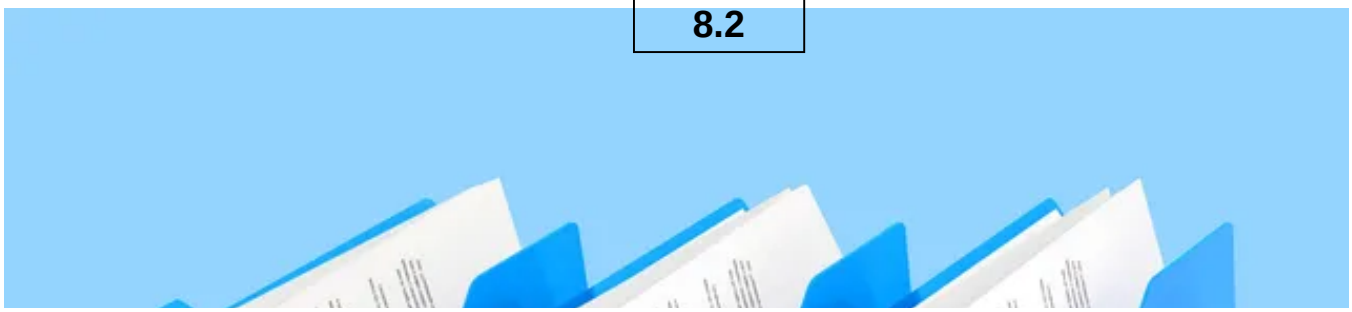

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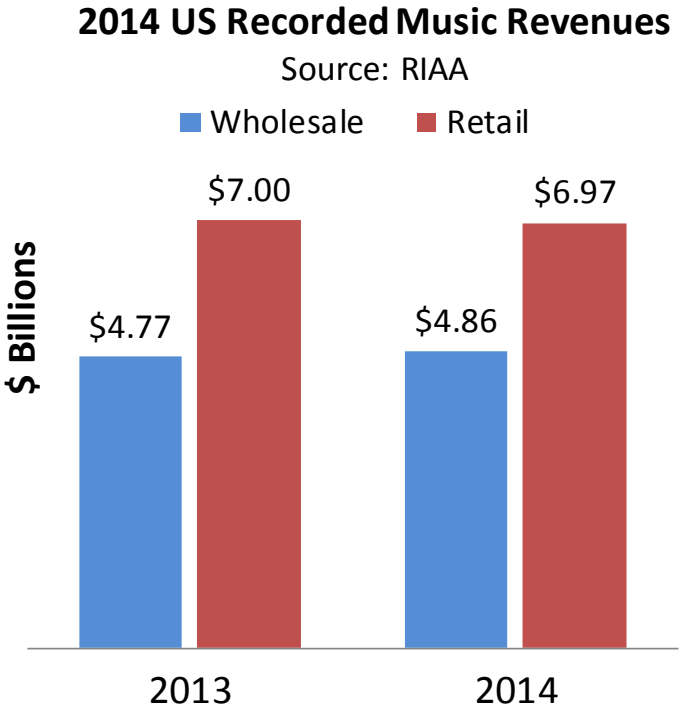
8.3

News and Notes on 2014 RIAA Music Industry Shipment and Revenue Statistics

Joshua P. Friedlander
Vice President, Strategic Data Analysis, RIAA

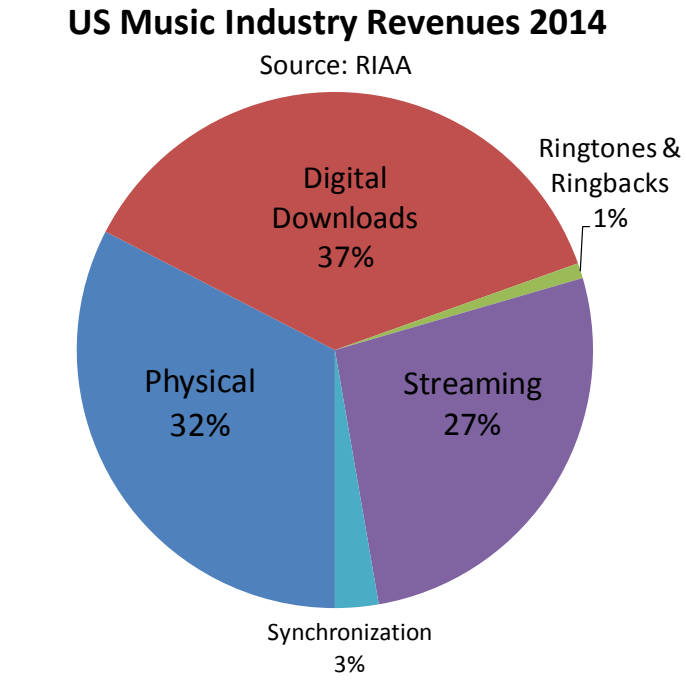
The U.S. recorded music industry continues to experience important changes in its revenue composition. Full year 2014 U.S. recorded music industry wholesale revenues were up 2.0% to $4.86 billion, the fourth year in a row of growth at wholesale value. Stronger overall sales in the second half of 2014 largely erased the revenue declines that were seen at midyear. Revenues at estimated retail value were down slightly (-0.5%) to $6.97 billion, marking the fifth straight year of relatively flat retail revenues.

Figure 1



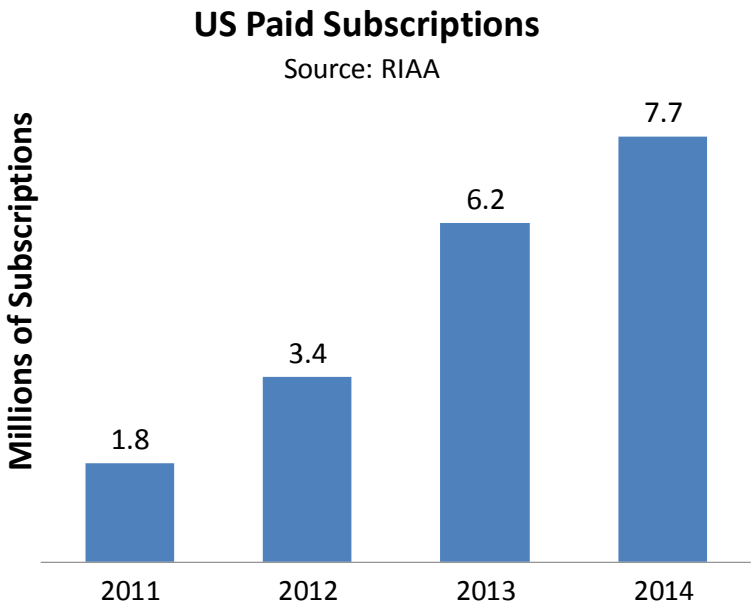
Broadly, industry revenue composition was more balanced between physical, digital download, and streaming sources in 2014 than ever before. Permanent downloads remained the largest component at 37% of the total market by value (down from 40% in 2013). Streaming revenues grew from 21% in 2013 to 27% in 2014. And physical shipment revenues shrank only from 35% to 32%.

Figure 2



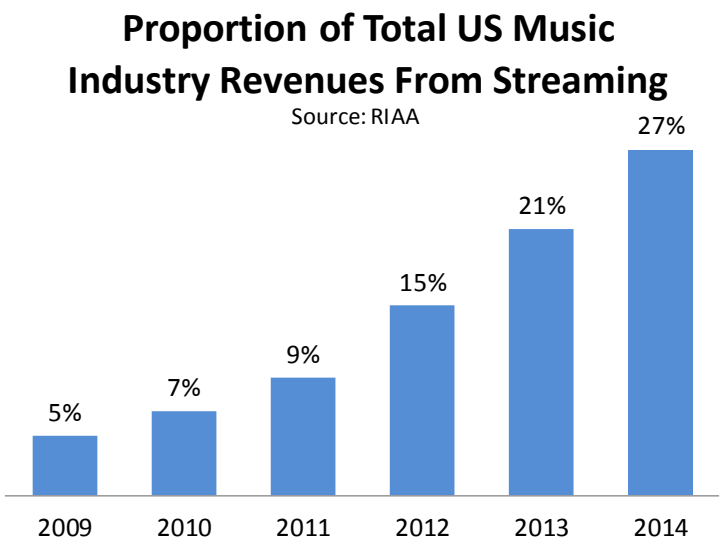
The number of paid subscriptions to on-demand music services in the United States more than tripled since 2011. In 2014, paid subscriptions grew 26% year-over-year to 7.7 million.

Figure 3



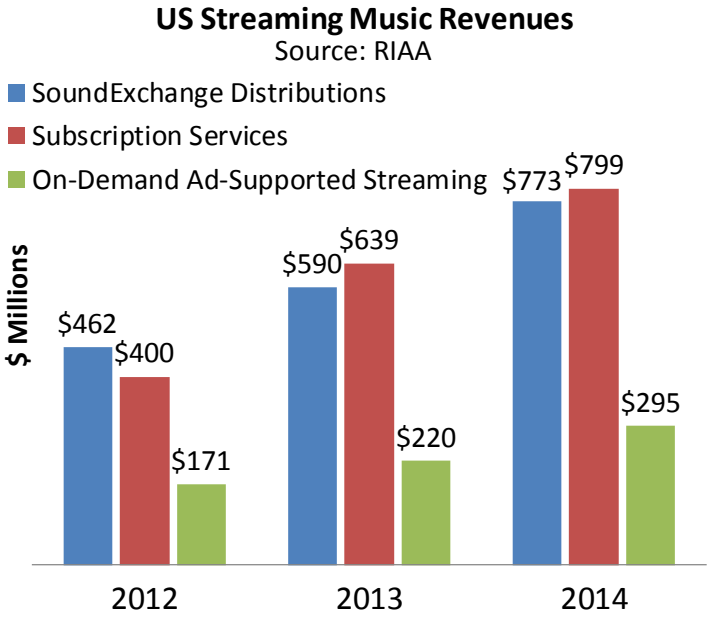
Revenues from streaming music services grew 29% to $1.87 billion in 2014, and accounted for 27% of total industry revenues. This category includes subscription services (such as Rhapsody, paid versions of Spotify, and others), streaming radio service revenues that are distributed by SoundExchange (like Pandora, SiriusXM, and other Internet radio), and other non-subscription on-demand streaming services (such as YouTube, Vevo, free versions of Spotify, and others).

Figure 4



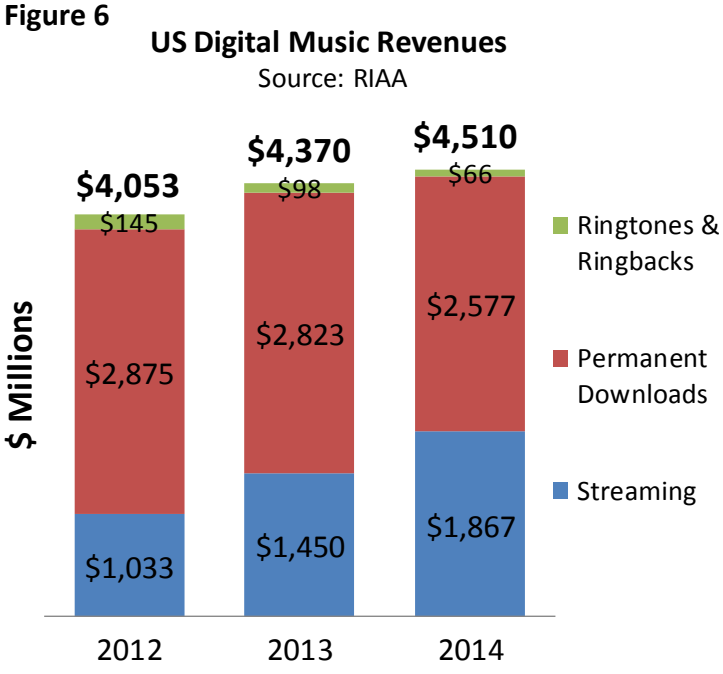
Streaming revenue growth was driven by relatively consistent increases from each of its components. Paid subscription services grew 25% year-over-year to $799 million. Revenues from ad-supported on-demand services grew 34% to $295 million, and SoundExchange distributions grew 31% to $773 million. Note, in 2014, the RIAA revised the retail price markup estimate for paid subscriptions. If those revised estimates were applied retroactively, the year-over-year value growth for paid subscriptions would have been greater.

Figure 5



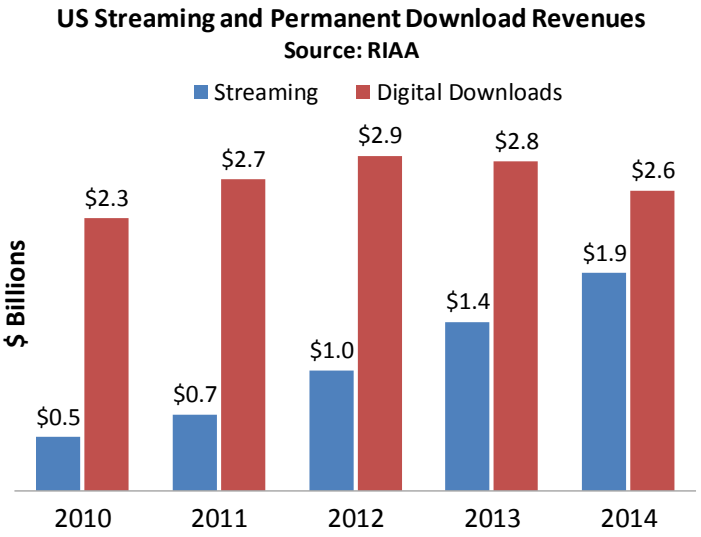
Although revenues from permanent digital downloads fell 8.7% to $2.58 billion in 2014, the growth from streaming services more than offset that decline. Total digitally distributed formats grew 3.2% to $4.51 billion, a new all-time high, and accounted for 66% of the market at retail by value (note Synchronization excluded from this figure). Sales of digital albums declined at a slower pace than individual digital tracks, down 6.6% and 10.1% respectively (at retail value) in 2014. Digital albums accounted for 45% of the total market value of permanent downloads.

Figure 6



The difference between revenues from permanent digital downloads and streaming has narrowed considerably. As streaming has grown to approach $2 billion annually, the balance between these digital markets has evened out.

Figure 7



While revenues from digitally distributed sources increased in 2014, physical formats, including CDs, continued to decline in both total shipment volume and value. Shipments of physical products decreased 7.1% at estimated retail value in 2014. Still by far the largest format at 82% of the physical market, CDs decreased 12.7% to $1.85 billion at retail value. In 2014, CDs comprised 27% of the overall market at estimated retail value.

Full length vinyl LPs continued their resurgence in 2014, growing 49% to $315 million. This marks the first year since 1987 that vinyl LPs were a double-digit percentage of the physical market. Vinyl LPs were 14% of the physical market, and 4.5% of the total market at estimated retail value.

The results for 2014 show that when the U.S. recorded music market is analyzed beyond the headline numbers, major changes are driving market development beneath the surface. The industry continues to rapidly grow the share of revenues coming outside of traditional unit-based sales. Unit sales accounted for more than 90% of revenues as recently as 2010, but streaming and synch revenues combined to account for 30% of total revenues in 2014.

Note that data from 2013 and midyear 2014 has been slightly revised to reflect updated industry reports.

Please note that the RIAA presents the most up-to-date information available in its annual industry revenue reports and subscription-only online statistics database (http://www.riaa.com/keystatistics.php?content_selector=riaa-shipment-database-log-in).

For news media inquiries, please contact: Jonathan Lamy
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202/775-0101

COEX-
8.3

2014 Year-End Industry Shipment and Revenue Statistics

202-775-0101

United States Unit Shipments and Estimated Retail Dollar Value
(In Millions, net after returns)

Digital Permanent Download

		2013	2014	% CHANGE 2013-2014
(Units Shipped)	Download Single	1,327.9	1,200.4	-9.6%
(Dollar Value)		$1,567.6	$1,409.6	-10.1%
	Download Album	118.0	117.6	-0.3%
		$1,232.1	$1,150.8	-6.6%
	Kiosk[1]	3.7	1.6	-57.5%
		$6.2	$2.6	-58.3%
	Music Video	8.4	6.8	-18.9%
		$16.7	$13.6	-18.9%
	Ringtones & Ringbacks[2]	39.4	26.7	-32.2%
		$98.0	$66.5	-32.2%

Digital Subscription & Streaming

SoundExchange Distributions[3]	$590.4	$773.4	31.0%
Paid Subscription[4]	6.2	7.7	25.6%
	$639.2	$799.1	25.0%
On-Demand Streaming (Ad-Supported)[5]	$220.0	$294.8	34.0%
TOTAL DIGITAL VALUE	**$4,370.3**	**$4,510.3**	**3.2%**
Synchronization Royalties[6]	$189.7	$189.7	0.0%

Physical

(Units Shipped)	CD	172.2	144.1	-16.3%
(Dollar Value)		$2,123.5	$1,854.1	-12.7%
	CD Single	0.6	1.0	60.1%
		$2.4	$3.8	57.3%
	LP/EP	9.4	13.2	41.0%
		$210.7	$314.9	49.4%
	Vinyl Single	0.3	0.5	61.4%
		$3.0	$5.9	99.2%
	Music Video	4.7	4.1	-13.4%
		$104.7	$90.5	-13.6%
	DVD Audio	-0.1	0.1	-221.8%
		-$0.5	$2.1	-531.5%
	SACD	0.0	0.0	-33.3%
		$1.0	$0.8	-22.0%
	Total Physical Units	**187.2**	**163.0**	**-13.0%**
	Total Physical Value	**$2,444.8**	**$2,272.2**	**-7.1%**
	Total Retail Units	**159.1**	**142.6**	**-10.4%**
	Total Retail Value	**$2,267.8**	**$2,132.9**	**-5.9%**

TOTAL DIGITAL AND PHYSICAL

Total Units[7]	**1,684.6**	**1,516.1**	**-10.0%**
Total Value	**$7,004.8**	**$6,972.2**	**-0.5%**

% of Shipments[8]	**2013**	**2014**
Physical	36%	34%
Digital	64%	66%

For a list of authorized services see www.whymusicmatters.com

Retail Value is the value of shipments at recommended or estimated list price
Formats with no retail value equivalent included at wholesale value
Note: Historical data updated for 2013

[1] Includes Singles and Albums

[2] Includes Master Ringtunes, Ringbacks, and prior to 2013 Music Videos, Full Length Downloads, and Other Mobile

[3] Estimated payments in dollars to performers and copyright holders for digital radio services under statutory licenses

[4] Streaming, tethered, and other paid subscription services not operating under statutory licenses
Volume is annual average number of subscribers for subscription services

[5] Ad-supported audio and music video services not operating under statutory licenses

[6] Includes fees and royalties from synchronization of sound recordings with other media

[7] Units total includes both albums and singles, and does not include subscriptions or royalties

[8] Synchronization Royalties excluded from calculation

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Google Launches “Google Play Music All Access” On-Demand $9.99 A Month Subscription Service

techcrunch.com/2013/05/15/google-play-music-all-access/

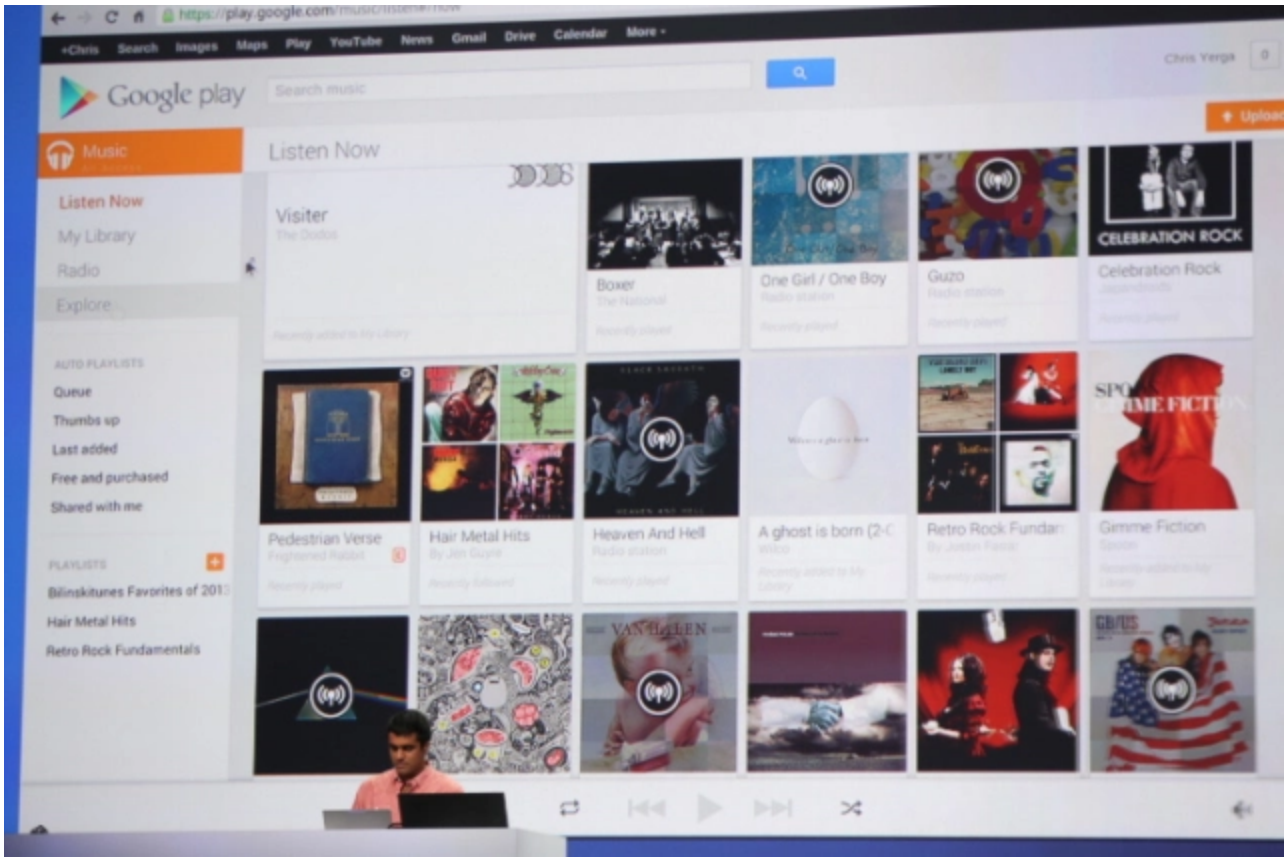
Josh Constine

Josh Constine @JoshConstine / 8 years

Google just launched an on-demand subscription music service at I/O called “Google Play Music All Access”. Its web and mobile interfaces feature millions of songs you can play instantly, recommendations, charts and playlists, and instant radio stations. The Spotify competitor launches today in the US for $9.99 a month, comes with a free trial month, and sign-ups before June 30th get it for $7.99.

All Access is just one of dozens of announcements Google launched today at its I/O conference in San Francisco. Follow along with our live blog for all the news and our commentary.

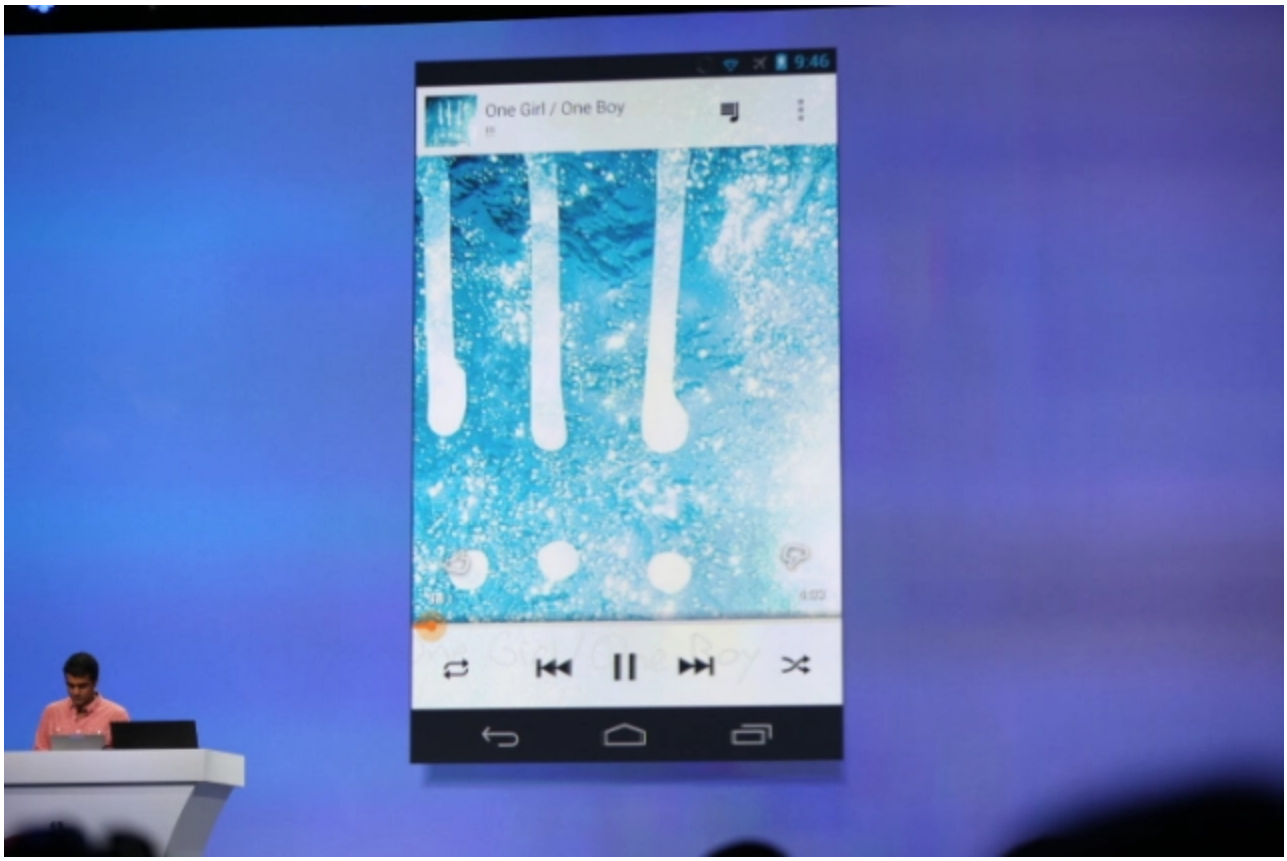
Everything from your Google Music locker is automatically pulled into Google Play Music All Access. Beneath the content you own, everything else an artist has ao All Access is automatically listed and plays at a tap. More countries will get Google Play Music All Access soon.



News that the service was coming was leaked yesterday by The Verge after it discovered Google had completed licensing deals with the major record labels. Google launched its music locker service two years ago, and later started selling music files from Play. Now Google Play users have a choice to stream rather than download.

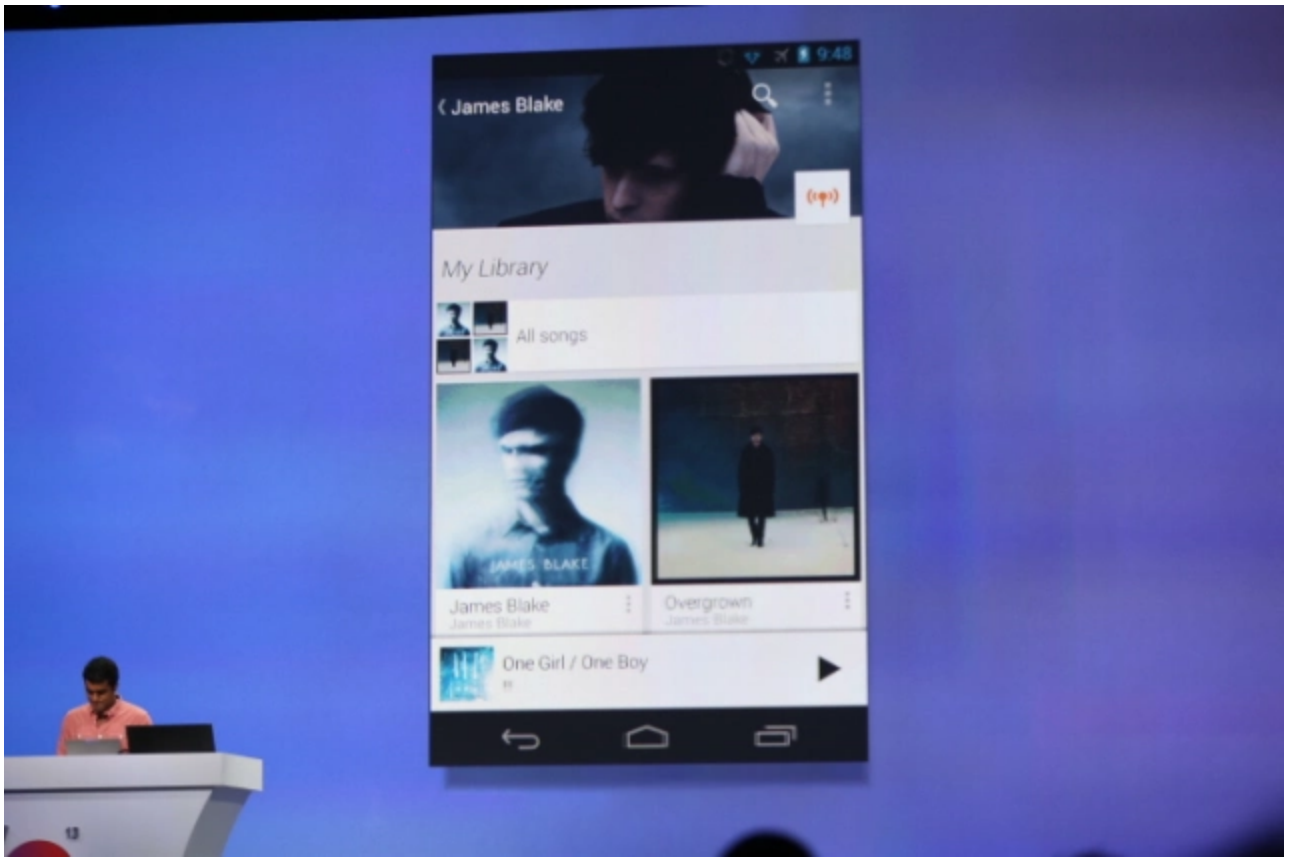
Google's Chris Yerga explained that with current music services, you might have a huge catalog to choose from, but getting that music organized and playing quickly is too hard. "Why is it that managing my queue feels like a chore? We set up to build a music services that doesn't just give you access to great music but also guides you through it" said Google's Chris Yerga.

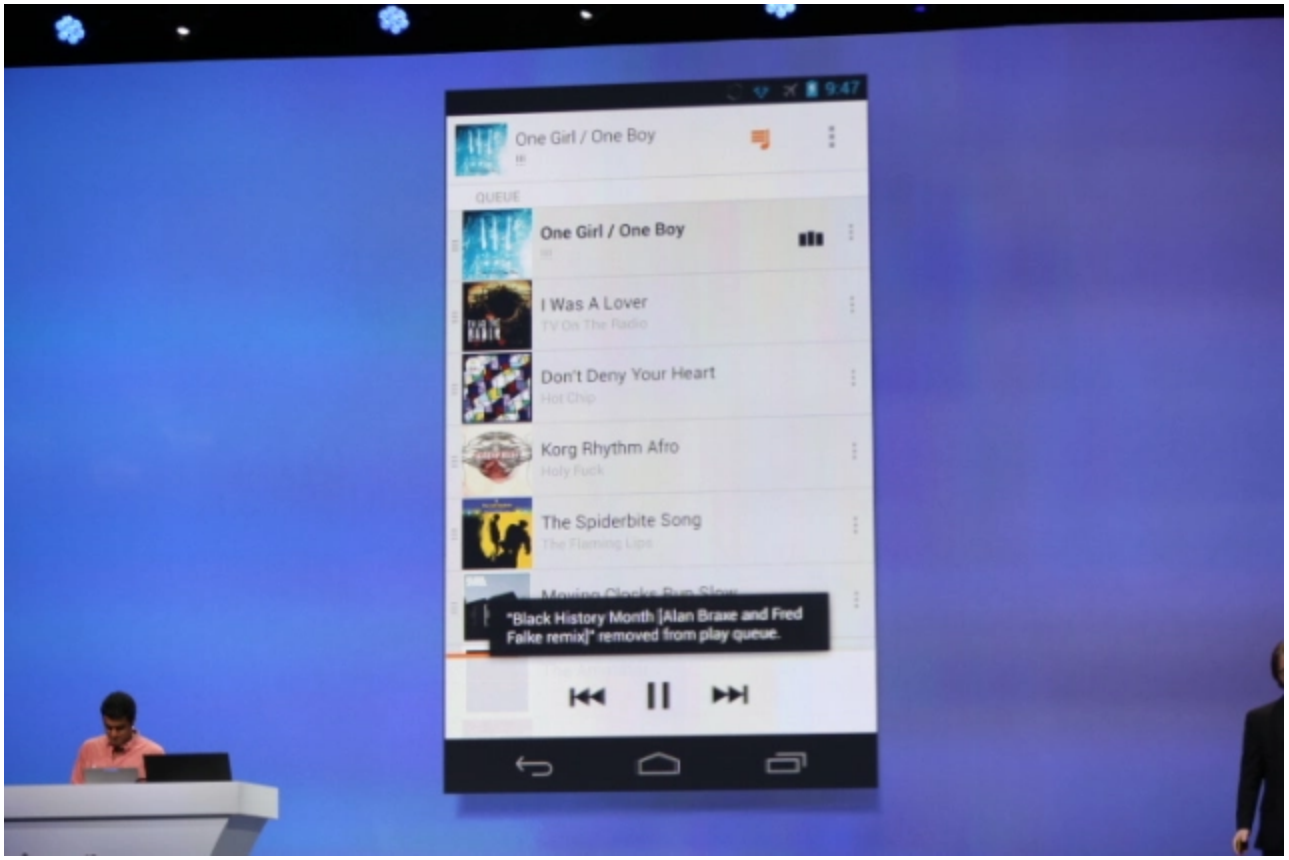
Overall the app looks slick, with options for instantly queuing up songs. It's also designed to get music playing as fast possible if you just want your ears filled.



All Access will have a tough road to traction, considering Spotify's huge head start with 24 million active users and 6 million paying subscribers. However, the fact that All Access is located within the Android-ubiquitous Google Play store means Google could heavily promote it if it wants growth.

The logic behind launching an on-demand music service seems to be that it's a critical part of any phone. Android is incomplete without it. Google Play Music All Access might never become a market leader, or even make Google much money directly, but it strengthens its presence on mobile. It could get people buying more Android phones, which lead to plenty of other revenue for Google.


9:48
James Blake
My Library
All songs
James Blake
James Blake
Overgrown
James Blake
One Girl / One Boy


9:47
One Girl / One Boy
QUEUE
One Girl / One Boy
I Was A Lover
Don't Deny Your Heart
Hot Chip
Korg Rhythm Afro
Holy Fuck
The Spiderbite Song
"Black History Month [Alan Braxe and Fred Falke remix]" removed from play queue.

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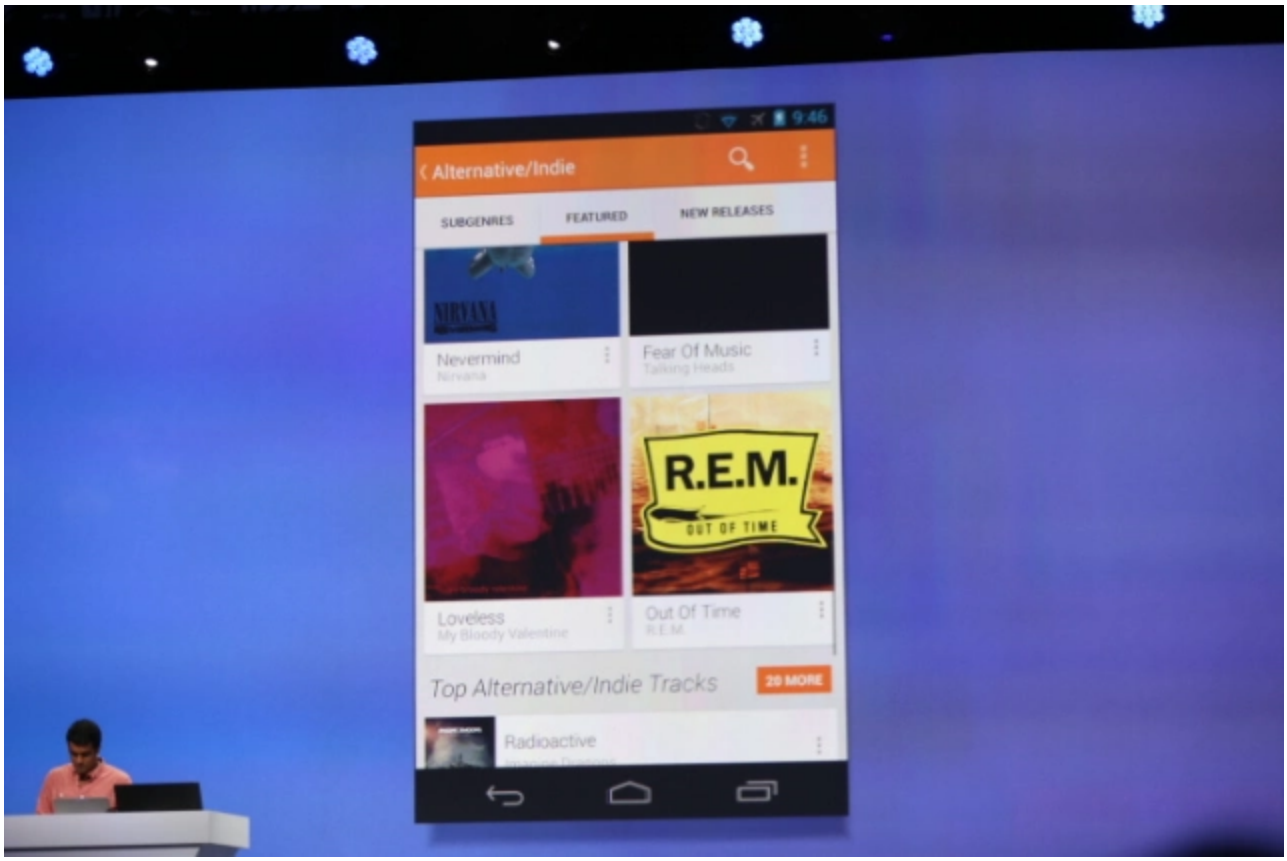
9:46
Alternative/Indie
SUBGENRES
FEATURED
NEW RELEASES
Nevermind
Nirvana
Fear Of Music
Talking Heads
Loveless
My Bloody Valentine
R.E.M.
OUT OF TIME
Out Of Time
R.E.M.
Top Alternative/Indie Tracks
20 MORE
Radioactive

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Apple announces its streaming music service, Apple Music

Can the tech giant pose a legitimate threat to Spotify?

By Ben Popper and Micah Singleton | Jun 8, 2015, 2:47pm EDT

Apple has finally jumped into the music streaming race, unveiling Apple Music at WWDC this afternoon. The company revolutionized digital music with the iPod and iTunes, but is now playing catch up, trying to align itself with the current era of subscription offerings. "We've had a long relationship with music," said Apple CEO Tim Cook. "And music has had a rich history of change, some of which we've played a part in." The service will bring combine music downloads, streaming radio, and a streaming music service into a single app. Like most digital services, it promises to learn your tastes and recommend great new songs accordingly.

$14.99 A MONTH FOR SIX FAMILY MEMBERS

The service will cost $9.99 a month, or $14.99 for a family plan of up to six individuals, with a three-month free trial. In order to use the family plan, you'll need to have iCloud Family Sharing active. By contrast, Spotify offers a two-person subscription package for $14.99. Apple says its new music service will be available June 30th, with Android coming in the fall. Apple had hoped to shake things up by offering a tier priced between $5 and $8, but unfortunately couldn't get the music industry on board. The end result is a product that has little to differentiate it from what is already in

the market in terms of price and selection. The 30 million tracks on Apple Music are also going to be found on Spotify or Rdio. Apple is hoping features and exclusive content will be enough.

JIMMY IOVINE HAS BEEN LEADING APPLE'S PUSH INTO STREAMING

Paid Apple Music users will be able to download albums and playlists to play offline, while free users will only be able to listen to Apple Music radio stations with limited skipping. The company has rebuilt iTunes Radio and reportedly staffed it with big-name artists like Dr. Dre, will.i.am, Pharrell, and Drake acting as DJs. It is also bringing on experienced talent like BBC's Zane Lowe to help curate stations. Jimmy Iovine, who has been heading up Apple's renewed push into music, reportedly tried to sign other big names like Kanye West and Beyoncé to exclusive deals, but lost out to Tidal, a rival service recently launched by Jay Z and a consortium of high-profile musicians.

The first station is called BeatsOne and will be available in 100 countries. It's going to be playing tunes around the clock and will be anchored by three DJs: Zane Lowe, Ebro Darden, and Julie Adenuga. Subscribers can skip as many tracks as they like. Apple's Eddie Cue says that the music it recommends to you "isn't just algorithms, it's recommendations made by our team of experts." This is pretty much the same pitch that Beats made when it launched. Users who signed up for that service will find their accounts transferred automatically to Apple Music when the latter launches on June 30th.

Apple also showed off a feature called Connect that lets artists upload music, photos, and messages which are shared with their fans. It's basically a blog fans can subscribe to, then comment and like individual posts. This is similar to the exclusive behind-the-scenes material that Tidal has been sharing from its cadre of artists.

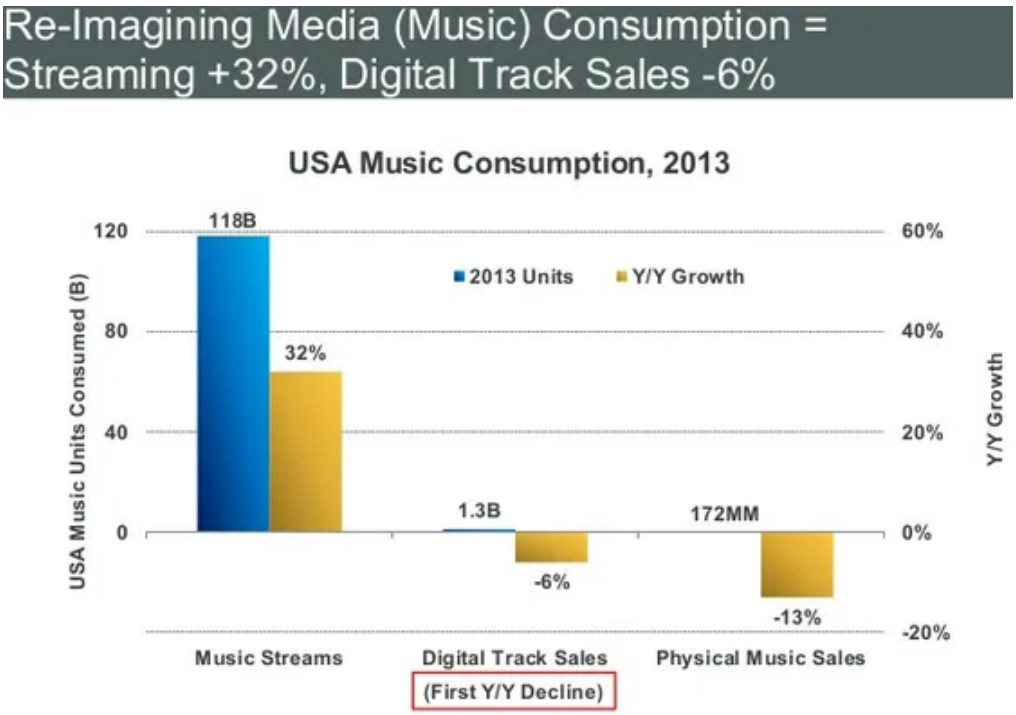
DRAKE IS RELEASING HIS NEXT ALBUM ON CONNECT

Drake came onstage to show off Connect. He said as a child he wondered if he or anyone from Canada could make it big in the world of rap. Luckily technology was there to help. "The dream of being a new artist like myself five years ago and connecting directly with an audience has never been more close or reachable." He will be releasing his next album, obviously, on Connect.

There is some cool Siri integration. You can ask it to play a particular artist or track. You can also give it a more general query, like "play the top track from the summer of 1982," or whatever year you happened to have graduated from high school. But Apple says you don't need your iPhone present — you'll be able to sync songs to your Apple Watch without it.

SIRI, PLAY ME THE MOST RETWEETED TRACK OF 2014

The big question is whether Apple needs to differentiate to succeed. It is entering a market dominated by Spotify, which has racked up over 60 million users, with 15 million paid subscribers. Spotify has had the run of the land since it came to the US from Europe in 2011, but with over 800 million credit cards on file, Apple has a chance to quickly assemble a large user base and give Spotify its first true challenger. If it can get people who purchase a new Apple device to sign up for a free trial, it may end up bringing a large number of new users into the streaming music market that up until this point were not convinced to give a paid service a try.



Source: Mary Meeker

"Apple is arriving late to the music streaming business, due in part to Steve Jobs' refusal to believe that music subscription services would ever work," says Forrester analyst James McQuivey. "But the writing is on the wall: digital downloads don't make sense for consumers that are connected wherever they go."

The pitch repeated during the event was about simplicity and unity. "Apple Music is really going to move the needle for fans and artists," said Jimmy Iovine, the record executive and founder of Beats who is now helping to lead Apple's charge into music. "Online music has become a complicated mess of apps, services, and websites. Apple Music brings the best features together for an experience every music lover will appreciate."

Check out our Apple WWDC event page for all the news!

GRID VIEW

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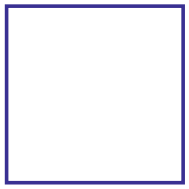

COEX-8.6

Press release

Now Streaming: Amazon Music Unlimited

October 12, 2016 at 5:50 AM EDT

Combining the simplicity and magic of natural language voice control—powered by Alexa—with tens of millions of songs and thousands of hand-curated playlists and personalized stations, Amazon Music Unlimited makes discovering and listening to music easier than ever…just ask

Amazon Music Unlimited is available at the breakthrough price of $7.99/month or $79/year for Prime members—$9.99/month for non-Prime customers

Exclusive "for Echo" subscription plan is available for only $3.99/month with full access to Amazon Music Unlimited

SEATTLE--(BUSINESS WIRE)--Oct. 12, 2016-- (NASDAQ: AMZN)—Amazon today introduced Amazon Music Unlimited, an on-demand music service that redefines music streaming by putting a catalog of tens of millions of songs and thousands of hand-curated playlists and personalized stations not just at the tips of your fingers, but also on the tip of your tongue. Amazon Music Unlimited makes discovering new music or listening to favorites easier and more fun than ever with a redesigned Amazon Music app as well as with innovative new Alexa voice controls.

"Amazon Music Unlimited brings real value to the millions of people who are already Prime members, with a choice of subscribing for only $7.99 a month or even $79 per year. Plus, customers are going to love Amazon Music's all-new app for iOS, Android and desktop," said Jeff Bezos, Amazon Founder and CEO. "And if you want a sense of the future of voice-controlled music, go ahead and ask Alexa for a free Music Unlimited trial, and play around on your Echo. If you don't know the name of a song but know a few lyrics, if you want to hear songs from a specific decade, or even if you're looking for music to match your mood, just ask."

More for Prime Members

Prime members now have more choice than ever when it comes to music streaming. Millions of Prime members already stream music on Amazon Prime every month, making Amazon Music one of the most popular music streaming services in the world. The Prime catalog has grown to more than two million songs and over one thousand hand-curated playlists and personalized stations. Today, with the launch of Amazon Music Unlimited, Prime members who want even more music have access to a catalog of tens of millions of songs and thousands of hand-curated playlists and personalized stations at a breakthrough Prime member price of $7.99/month or $79/year (which equals only $6.58/month).

Even Better on Echo

Millions of customers have fallen in love with Alexa and have given Echo over 28,000 5-star reviews on Amazon. Since the debut of Echo nearly two years ago, music consistently has been one of the most popular activities on Echo; now Amazon Music has reimagined music listening on Echo with intuitive new Alexa voice controls that turn your Echo into the ultimate personalized jukebox. No searching or browsing required…just ask. And with the advanced machine learning of Alexa, the Amazon Music experience will become more conversational and personalized all the time.

- Ready to listen to Sia? Just ask, "Alexa, play Sia" and Alexa will create a playlist of Sia's most popular songs
- Want to hear the latest hit by Green Day? Just ask, "Alexa, play Green Day's new song" and Alexa will play their latest single, "Bang Bang"
- Have words to a song stuck in your head but can't remember the name of the song? All you have to do is say a few words and Alexa will play the song. For example, just ask, "Alexa, play the song that goes, 'I was doing just fine before I met you'" and Alexa will play, "Closer" by The Chainsmokers
- Want to re-live the music from your college days? You can ask Alexa to play hit music from a decade or a specific year or month. Just ask, "Alexa, play the most popular rock from the 90s" and Alexa will take you back in time

- Feeling down and need a pick-me-up? Just ask, "Alexa play 'Happy Music'" and Alexa will choose a playlist based on your listening history like "Feel-Good Indie," "R&B Fun" or "Pop To Make you Feel Better"
- Want to listen to early catalog from a favorite artist? Just ask, "Alexa, play Van Halen from the 70s" and Alexa will play tracks from the LA rockers' first couple of albums
- Having friends over? Just ask, "Alexa, play music for a dinner party" and Alexa will choose a playlist based on your listening history like "Dinner With Friends," "Cooking With 90s Hip-Hop" or "Indie Dinner Party"
- Want to be surprised? Just ask, "Alexa, play the Song of the Day" to hear a song picked daily by Amazon Music editors. Song of the Day also features a DJ intro with fun facts about the song and an outro with suggestions for further listening
- Not sure what to play? Just ask, "Alexa, play music" and Alexa will find something personalized just for you

Amazon Music on Alexa also brings fans and artists closer together with behind-the-scenes artist commentary about their music, called Side-by-Sides. Customers can simply ask, "Alexa, play Side-by-Side with OneRepublic" and Ryan Tedder will play and comment on songs from OneRepublic's latest album *Oh My My*. Side-by-Sides are available exclusively on Amazon Music from top artists such as The Chainsmokers, Jason Aldean, Lindsey Stirling, Norah Jones, OneRepublic and Kongos – with more being added all the time.

Amazon is offering an exclusive "for Echo" subscription plan for only $3.99/month, with full access to Amazon Music Unlimited on a single Echo, Echo Dot or Amazon Tap. To start a free trial to the "for Echo" plan, just ask "Alexa, start my Music Unlimited free trial." If you decide later that you want to enjoy Amazon Music Unlimited on multiple devices, including Fire devices, iOS, Android, Web, PC, Mac, Sonos and more, it's easy to upgrade to a standard plan for an additional $4.00/month for Prime members ($6.00/month non-Prime customers).

Sleek and Intuitive New App

The Amazon Music app has been redesigned with a beautiful, new interface that emphasizes artist images and album art and puts music discovery and playback front and center. Key features of the app include "Home," which showcases selections by Amazon Music editors to help customers stay up-to-date on the music they love and what's trending and popular; "Recommended," where customers can find personalized music suggestions powered by Amazon's recommendation technology; and "Now Playing," where synchronized lyrics make it easy to follow along to your favorite music. The Amazon Music app is available on Fire devices, iOS, Android, Web, PC and Mac.

Coming Soon

A new "For Family" subscription plan will be coming this year, allowing up to six family members simultaneous access to Amazon Music Unlimited for $14.99/month or $149/year. Amazon Music Unlimited also will be available for customers in the U.K., Germany and Austria this year.

To learn more about Amazon Music Unlimited or start listening visit www.amazon.com/AmazonMusicUnlimited (http://cts.businesswire.com/ct/CT?id=smartlink&url=http%3A%2F%2Fwww.amazon.com%2FAmazonMusicUnlimited&esheet=51437579&newsitemid=20161012005572&lan=en-US&anchor=www.amazon.com%2FAmazonMusicUnlimited&index=1&md5=42f36a7e164f7f4049ba0265f0e8ea4e).

About Amazon Music

Amazon Music is the destination for customers to have the most choice in how to access and listen to all their favorite music. In addition to streaming with Amazon Music Unlimited and Amazon Prime, Amazon Music offers a wide selection of CD and Vinyl, including AutoRip on more than a hundred thousand albums, and tens of millions of MP3 songs to purchase and own. For more information on Amazon Music visit www.amazon.com/amazonmusic (http://cts.businesswire.com/ct/CT?id=smartlink&url=http%3A%2F%2Fwww.amazon.com%2Famazonmusic&esheet=51437579&newsitemid=20161012005572&lan=en-US&anchor=www.amazon.com%2Famazonmusic&index=2&md5=6876b708caf421df13b451ecd9bc2412).

About Amazon

Amazon is guided by four principles: customer obsession rather than competitor focus, passion for invention, commitment to operational excellence, and long-term thinking. Customer reviews, 1-Click shopping, personalized recommendations, Prime, Fulfillment by Amazon, AWS, Kindle Direct Publishing, Kindle, Fire tablets, Fire TV, Amazon Echo, and Alexa are some of the products and services pioneered by Amazon. For more information, visit www.amazon.com/about (http://cts.businesswire.com/ct/CT?

id=smartlink&url=http%3A%2F%2Fwww.amazon.com%2Fabout&esheet=51437579&newsitemid=20161012005572&lan=en-US&anchor=www.amazon.com%2Fabout&index=3&md5=9103123eec5c9e4e5348e64c267418e3).

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www.amazon.com/pr (http://cts.businesswire.com/ct/CT?id=smartlink&url=http%3A%2F%2Fwww.amazon.com%2Fpr&esheet=51437579&lan=en-US&anchor=www.amazon.com%2Fpr&index=4&md5=51c5e2dc3cf1dc3f6d968f2beef82693)

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Here's the most popular feature on the Amazon Echo

Steve Kovach May 10, 2016, 2:35 PM

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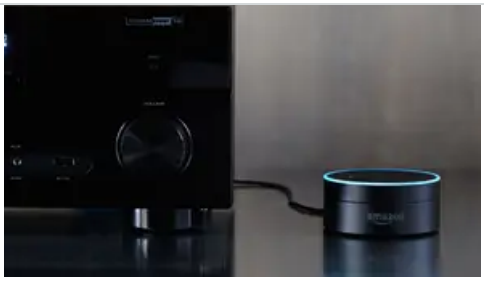

The Amazon Echo Dot. Amazon

You can order a pizza. Call an Uber. Get traffic and weather updates.

But despite all those features, the most popular function on the Echo is listening to music, Amazon's VP in charge of Echo Mike George said at the TechCrunch disrupt conference on Tuesday.

"Music is very popular," George said. "It's one of the most obvious use cases."

Instead of tapping and swiping an app to select a song like you have to do with Bluetooth speakers or the Sonos system, the Amazon Echo lets you control everything with your voice. Just say something like, "play the classic rock Pandora station" and you get exactly that. It's seamless and a delight to use.

Echo works with many of the major streaming services too: Spotify,

Pandora, Amazon Music, Amazon Prime Music, iHeartRadio, and TuneIn.

When I was testing the Echo last year, music was my favorite feature. It was nice to come home, walk into my living room, and tell Alexa (the digital assistant that powers the Echo) to play my favorite

Pandora station. The only reason I didn't end up buying the Echo for myself at the time was because Spotify didn't work with it and Amazon Prime's music selection is pretty weak compared to other services. (I ended up buying a Sonos speaker, which I also love.) Spotify didn't become available on Echo until a few months ago.

The Echo is an open platform, which means anyone can add new functionality to it over time. But despite all the cool things it can do, it sounds like music will always be at its core.

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More: Amazon Echo Music Pandora Spotify

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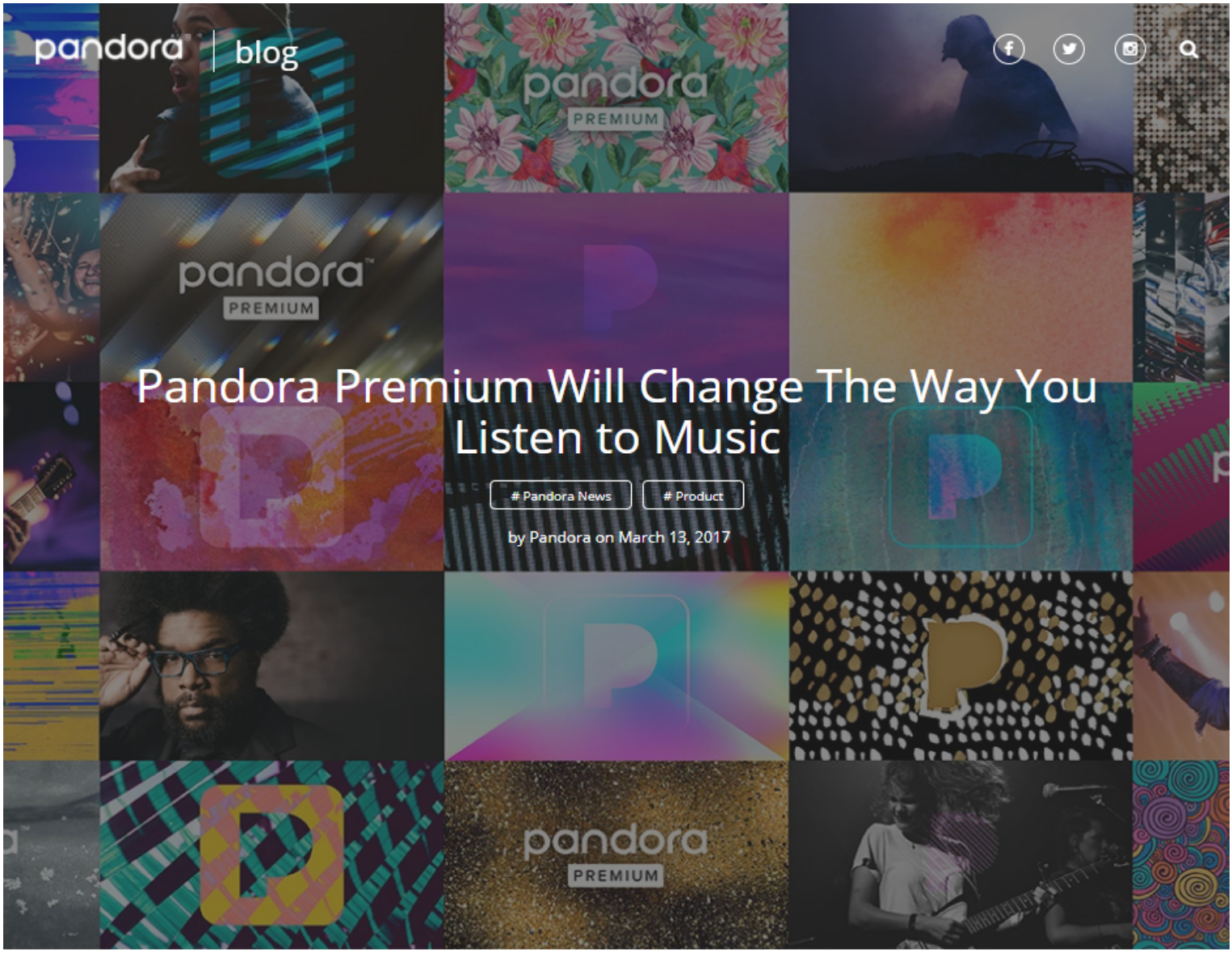


When we set out to build a premium music experience — one that would set the new standard for what a music service could be — we knew it had to be truly personal, be thoughtfully designed and take the work out of managing your world of music.

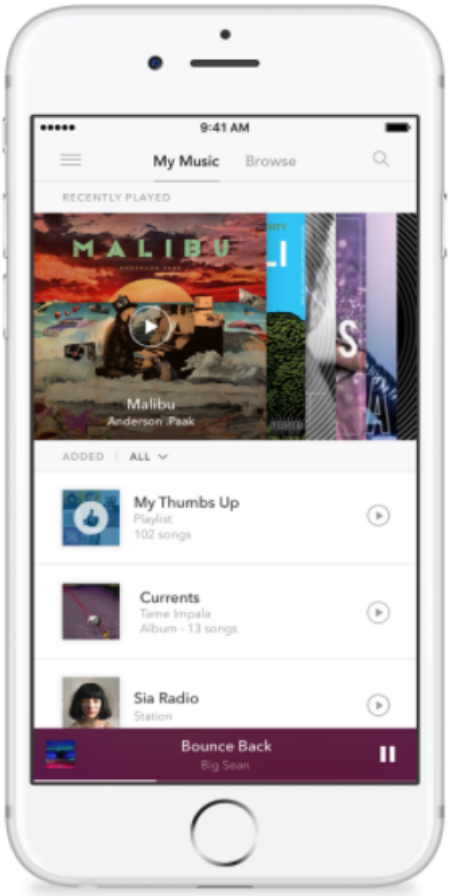
To do this, we took advantage of two of our core strengths: our unrivaled understanding of music via the Music Genome Project and the massive amount of data we have from 81 million listeners just like you – things like station adds, thumbs (we have more than 75 billion!), searches and skips.

The result is Pandora Premium: a combination of the Pandora radio you already love, the ability to search and play any track or album and a set of playlist features tailored to your preferences. It's totally unique to you, easy

to use and loaded with amazing features for $9.99 / month.

All of your favorites waiting for you:

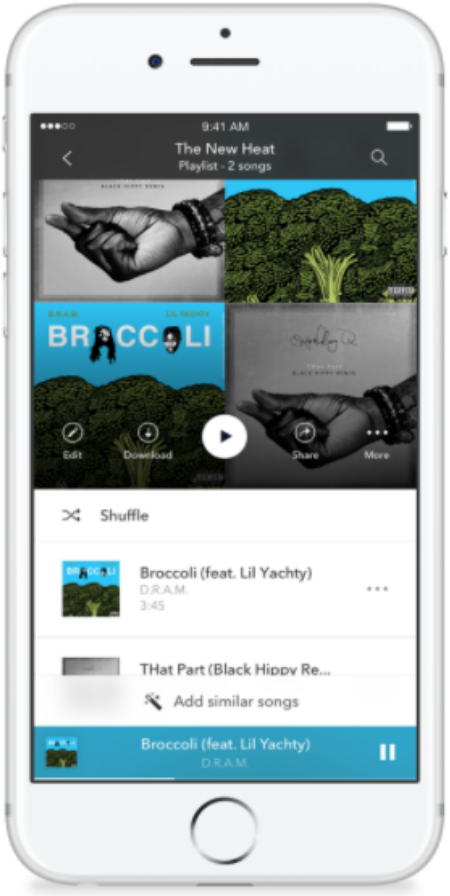
Open Pandora Premium and you'll see the familiar look and feel that has always made Pandora so easy to use. In "My Music," every station you've ever created, the albums and songs you collect and the playlists you create live in a simple, combined list with your most recent music at the top. And waiting for you as soon as you upgrade is your "My Thumbs Up" playlist, a collection of every song you've ever thumbed up across all your stations — a timeline of your greatest hits on Pandora.



Playlists, not worklists:

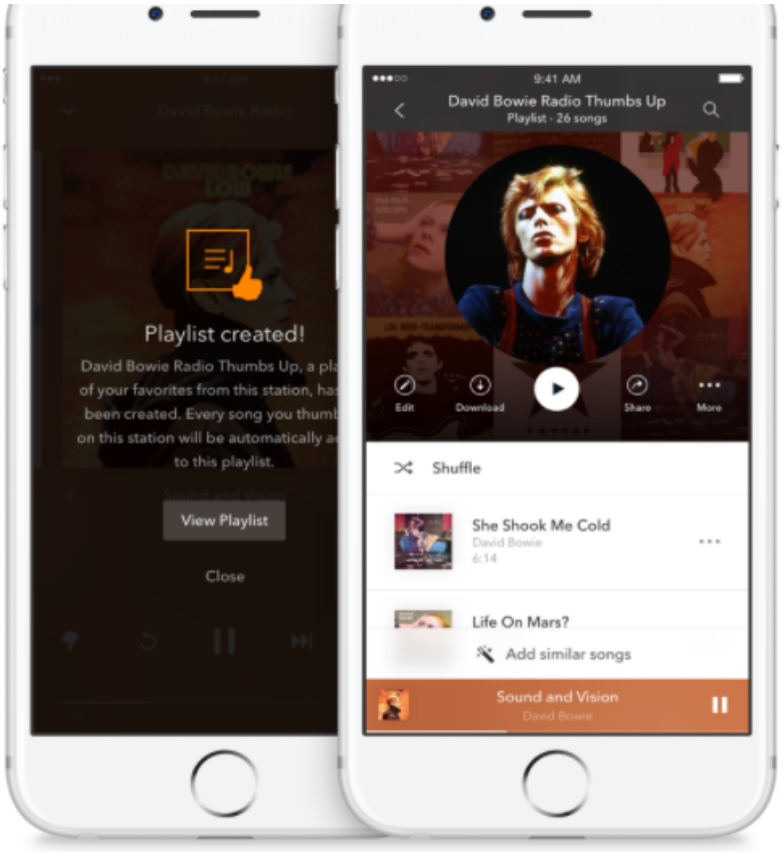
Everyone loves playlists, but not everyone has time to make them. You've probably had this happen before: you think of three or four songs for a "Workout" or "Study" playlist, but building the rest of it just feels like work. In

Pandora Premium, start a playlist with one or two songs of your choice, tap "Add Similar Songs" and put the power of our Music Genome Project to work to quickly and effortlessly create the perfect playlist for any activity, mood or party. No other service makes playlist creation so fun and easy.



The power of thumbs:

We pioneered personalizing your radio stations by thumbing tracks up or down. Thumbing up a song on a station tells us you want more. Nothing changes in Pandora Premium, except now we've given you a way to come back to those thumbed up songs again and again. Thumb up a handful of songs on your favorite radio station and Pandora Premium will automatically create a playlist of these songs. Thumb more songs and we'll add those to the playlist too. So whether you want to set it and forget it, or just play your favorites, Pandora Premium has you covered.

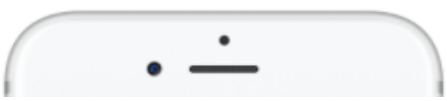


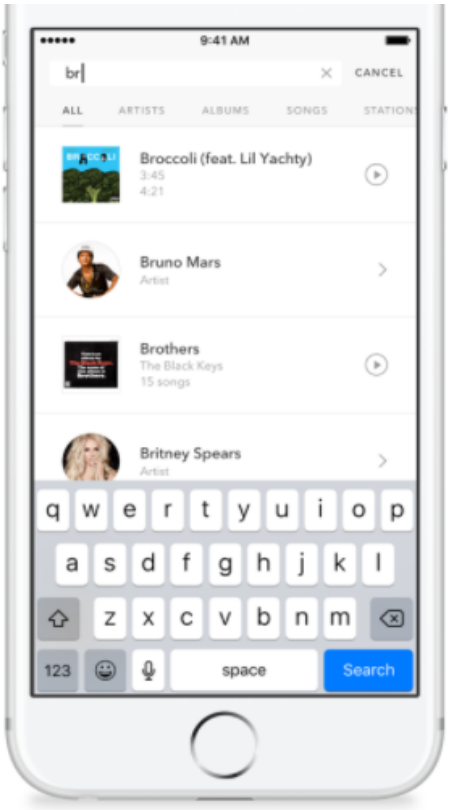
New music for you... and only you:

Everything in Browse — your home for new music — is tailored to you every week. In Pandora Premium, this now includes a set of album recommendations. But unlike other services that just surface the most obvious popular content, if you listen to a specific genre like hip hop or jazz, you are going to see the latest releases in those specific genres here.

A smarter approach to search:

Finding what you want to hear in a sea of 40 million songs can be exhausting for even the most patient music fan. In Pandora Premium, we've done the hard work of separating the killer from the filler for you. We've filtered out karaoke tracks, knock-off covers and pet sounds (but not *Pet Sounds*) that slow down other services. You get fast, accurate search results that get even smarter over time.



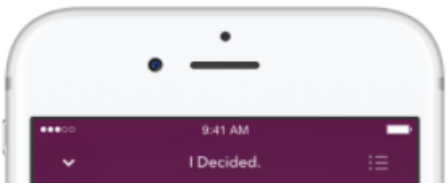


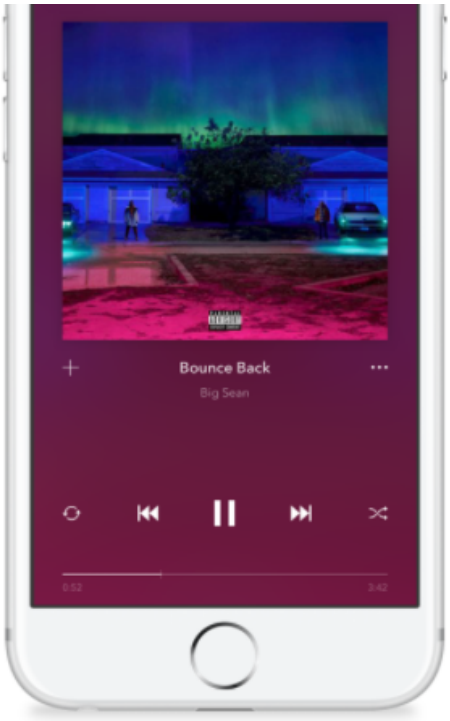
Take it all with you:

With Pandora Plus we introduced our predictive offline feature that automatically downloads your top stations and switches you to one of them when you lose a signal. We're bringing that feature to Pandora Premium, and adding the ability to download any album, song or playlist you want with no limits.

Music that looks as good as it sounds:

Pandora Premium features a completely redesigned Now Playing experience that dynamically changes color based on the artwork of the music you're listening to. You'll also find a new menu for quickly collecting, downloading and sharing, and a new layout for playback controls, including the replay button we introduced with Pandora Plus.





More on the way:

Very soon, we'll add a bunch more to Pandora Premium. This includes AutoPlay, which picks up right where your song, album or playlist ends to ensure the music never ends unless you hit pause. We'll also make Pandora Premium available on more devices and offer a desktop web experience that builds on the stunning update we just made available our ad-supported and Pandora Plus desktop listeners.

How do you get it?

Pandora Premium begins rolling out this week. Get an invite now by signing up at https://www.pandora.com/premium.

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YEAR-END 2020 RIAA REVENUE STATISTICS

Joshua P. Friedlander | Senior Vice President, Research and Economics, RIAA

United States recorded music revenues grew 9.2% in 2020 to $12.2 billion at estimated retail value. This is the fifth consecutive year of growth for the industry, as paid subscription services continued to be the primary driver of revenue increases, and reached a record number of subscriptions. Covid-19 affected the industry significantly through tour cancellations, retail store closures, and other disruptions. Revenues from recorded music measured at wholesale value grew 8.9% to $8.0 billion.

FIGURE 1

U.S. MUSIC INDUSTRY REVENUES

Source: RIAA

Streaming

Encompassing a wide range of services, streaming music revenues grew 13.4% to $10.1 billion in 2020. This category includes paid subscription services like Spotify, Apple Music, and Amazon Music Unlimited, ad-supported on-demand services such as Vevo, YouTube and the free version of Spotify, and digital and customized digital radio like Pandora, SiriusXM, and other Internet radio services. The streaming category for the first time includes music license revenues from Facebook and streaming fitness services (included for 2019 data as well). Streaming's share of total revenues has continued to grow, reaching 83% in 2020.

FIGURE 2

U.S. MUSIC INDUSTRY STREAMING REVENUES

Source: RIAA

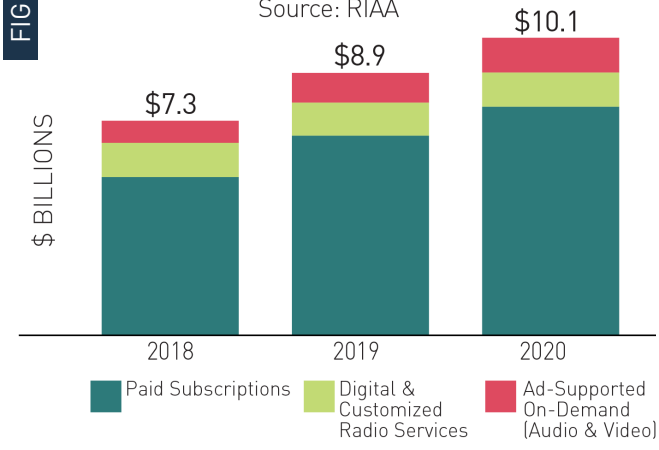
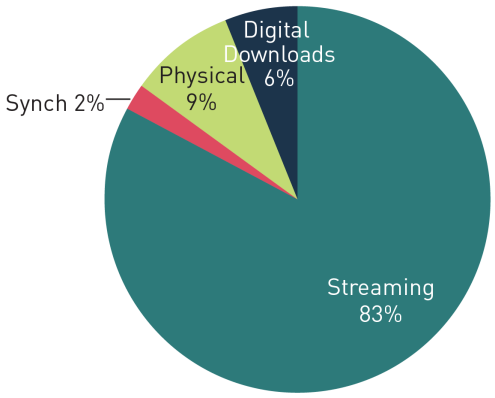


FIGURE 3

U.S. MUSIC INDUSTRY REVENUES 2020

Source: RIAA



Paid subscriptions to on-demand streaming services have contributed the majority of recorded music revenues each year since 2018. In 2020, full service paid subscriptions grew 14.6% to $7.0 billion. Additionally, limited tier paid subscriptions (services limited by factors such as mobile access, catalog availability, product features or device restrictions) grew 13.4% to $724 million. Services like Amazon Prime, Pandora Plus, music licenses for streaming fitness services, and other subscriptions are included in this category. Combined, total paid subscriptions accounted for 64% of total revenues at estimated retail value.

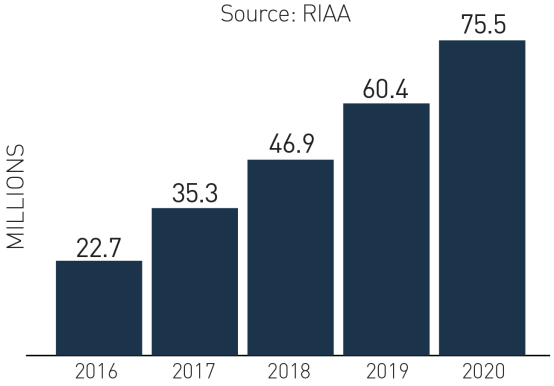
RIAA data analysis by **Joshua P. Friedlander**, Senior Vice President, and **Matthew Bass**, Manager

The number of paid subscriptions to on-demand streaming services continued to increase at double-digit rates in 2020. The average number of subscriptions grew by 15 million from 60.4 million in 2019 to 75.5 million in 2020, the biggest ever increase in a single year. These figures exclude limited-tier services, and count multi-user plans as a single subscription.

FIGURE 4

U.S. PAID MUSIC SUBSCRIPTIONS (ANNUAL AVERAGE)

Source: RIAA



A broad post-Covid-19 decline in advertising revenue growth across many forms of media impacted ad-supported on-demand revenues for music. Revenues from these services (such as YouTube, the free version of Spotify, and Facebook) grew 16.8% annually to $1.2 billion in 2020, compared with an average of nearly 30% growth rate in the 3 years prior. The volume of music streams on these services continued to grow, with hundreds of billions of streams delivered to more than 100 million listeners in the United States, but only contributed 9.7% of revenues.

Revenues from digital and customized radio services grew 3.9% to $1.2 billion in 2020. The category includes SoundExchange distributions for revenues from services like SiriusXM and Internet radio stations, as well as payments directly paid by similar services, included in this report as "other ad-supported streaming". SoundExchange distributions of $947 million were up 4.3% versus the previous year, while other ad-supported streaming revenues of $211 million were up 1.9%.

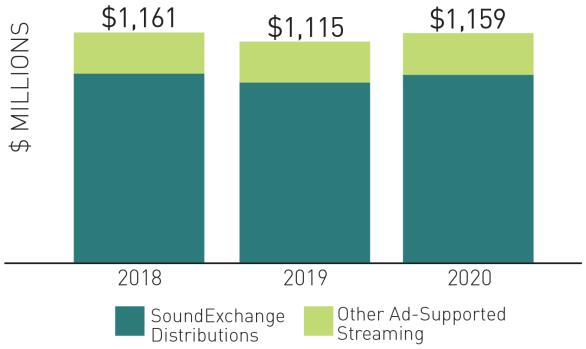
Digital Downloads

Revenues from digitally downloaded music were down 18% to $674 million in 2020. Permanent downloads of albums fell 13% by value to $320 million, and individual track sales were down 23% to $313 million in 2020. Downloads accounted for only 6% of total recorded music revenues in 2020.

FIGURE 5

U.S. DIGITAL AND CUSTOMIZED RADIO REVENUES

Source: RIAA



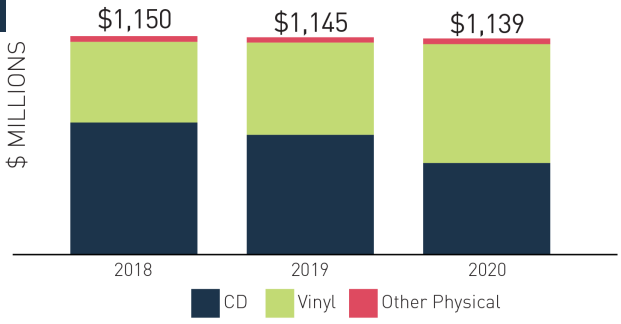
Physical Products

For the first time since 1986, revenues from vinyl records were larger than from CDs. Total revenues from physical products were virtually flat at $1.1 billion (down 0.5%). Despite the challenges to retail sales from Covid-19 restrictions, vinyl grew 28.7% by value year-over-year to $626 million, though still only account for 5.2% of total revenues by value. Revenues from CDs declined 23% to $483 million, continuing a long-term decline.

FIGURE 6

U.S. PHYSICAL FORMAT RECORDED MUSIC REVENUES

Source: RIAA



PLEASE READ THE COMMENTARY OF MITCH GLAZIER, CHAIRMAN AND CEO, HERE: MEDIUM.COM/@RIAA

NOTE – Historical data updated for 2016 - 2019, including updated revenue accounting standards starting in 2016. Formats with no retail value equivalent included at wholesale value. RIAA presents the most up-to-date information available in its industry revenue reports and online statistics database: https://www.riaa.com/u-s-sales-database

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YEAR-END 2020
RIAA MUSIC REVENUE STATISTICS

For a list of authorized services see www.whymusicmatters.com

United States Estimated Retail Dollar Value (In Millions, net after returns)

DIGITAL SUBSCRIPTION & STREAMING

		2019	2020	% CHANGE 2019-2020
(Units) (Dollar Value)	**Paid Subscription[1]**	60.4 $6,115.2	75.5 $7,009.2	25.0% 14.6%
	Limited Tier Paid Subscription[2]	$638.2	$723.6	13.4%
	On-Demand Streaming (Ad-Supported)[3]	$1,013.1	$1,183.1	16.8%
	SoundExchange Distributions[4]	$908.2	$947.4	4.3%
	Other Ad-Supported Streaming[5]	$207.3	$211.2	1.9%
	Total Streaming Revenues	**$8,882.0**	**$10,074.5**	**13.4%**

DIGITAL PERMANENT DOWNLOAD

(Units) (Dollar Value)	**Download Single**	329.7 $408.4	257.2 $312.8	-22.0% -23.4%
	Download Album	37.5 $368.8	33.1 $319.5	-11.7% -13.4%
	Ringtones & Ringbacks	8.3 $20.6	8.1 $20.2	-1.9% -1.9%
	Other Digital[6]	1.8 $25.0	1.6 $21.9	-12.9% -12.4%
	Total Digital Download Revenues	**$822.7**	**$674.4**	**-18.0%**

TOTAL DIGITAL VALUE

$9,704.7	$10,749.0	10.8%	

Synchronization Royalties[7]	$281.1	$265.2	-5.6%

PHYSICAL

(Units Shipped) (Dollar Value)	**CD**	47.5 $630.7	31.6 $483.3	-33.6% -23.4%
	LP/EP	18.5 $479.5	22.9 $619.6	23.6% 29.2%
	Music Video	1.3 $25.8	1.0 $27.4	-20.9% 6.2%
	Other Physical[8]	0.4 $8.5	0.5 $8.8	24.0% 3.1%
	Total Physical Units **Total Physical Value**	**67.7** **$1,144.6**	**55.9** **$1,139.1**	**-17.4%** **-0.5%**

TOTAL DIGITAL AND PHYSICAL

Total Units[9] **Total Value**	**445.0** **$11,130.4**	**355.9** **$12,153.4**	**-20.0%** **9.2%**

% of Shipments[10]	**2019**	**2020**
Physical	11%	10%
Digital	89%	90%

Retail Value is the value of shipments at recommended or estimated list price
Formats with no retail value equivalent included at wholesale value

Note: Historical data updated for 2019

[1] Streaming, tethered, and other paid subscription services not operating under statutory licenses
Subscription volume is annual average number of subscriptions, excludes limited tier

[2] Paid streaming services with interactivity limitations by availability, device restriction, catalog limitations, on demand access, or other factors

[3] Ad-supported audio and music video services not operating under statutory licenses

[4] Estimated payments to performers and copyright holders for digital and customized radio services under statutory licenses

[5] Revenues for statutory services that are not distributed by SoundExchange and not included in other streaming categories

[6] Includes Kiosks, music video downloads, and starting in 2016 other digital music licensing

[7] Includes fees and royalties from synchronization of sound recordings with other media

[8] Includes CD Singles, Cassettes, Vinyl Singles, DVD Audio, SACD

[9] Units total includes both albums and singles, and does not include subscriptions or royalties

[10] Synchronization Royalties excluded from calculation

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COEX-
8.9

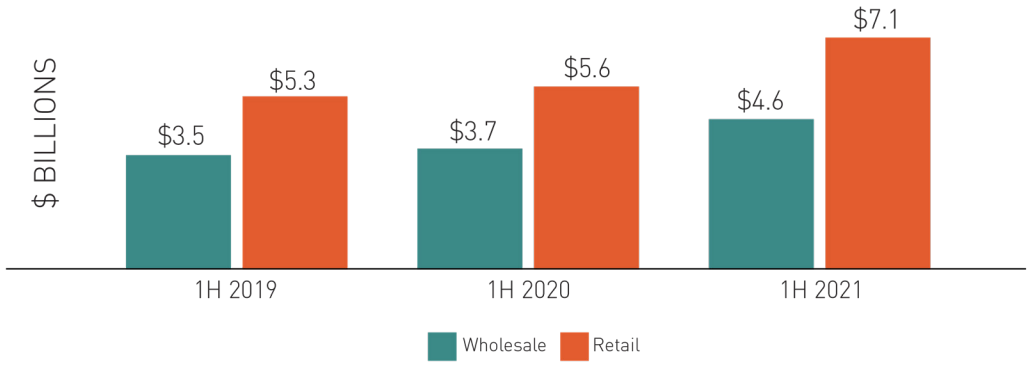
MID-YEAR 2021 RIAA REVENUE STATISTICS

Joshua P. Friedlander | Senior Vice President, Research and Economics, RIAA

Recorded music revenues in the U.S. grew 27% in the first half of 2021 versus the prior year, from $5.6 to $7.1 billion at retail value. Paid subscriptions continued to be the strongest contributor to growth, comprising nearly two-thirds of total revenue, and more than 80 million paid subscriptions for the first time. At wholesale value revenues rose 25%, from $3.7 billion in 1H 2020 to $4.6 billion in 1H 2021. The effects of Covid-19 continued to affect the industry, and year-over-year comparisons are significantly impacted by store closures, tour cancellations, and other disruptions from both 2020 and 2021.

FIGURE 1

U.S. MUSIC INDUSTRY MID-YEAR REVENUES



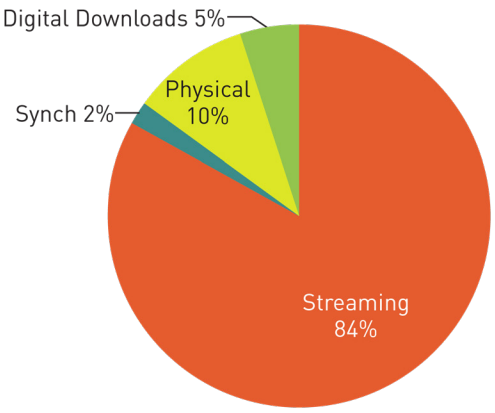
Streaming

Revenues from streaming music, a category including a wide range of formats such as paid subscription services, ad-supported services, digital and customized radio, and licenses for music on Facebook and digital fitness apps, grew 26% to $5.9 billion in the first half of 2021. Streaming accounted for 84% of total revenues for the period, about the same level as for 1H 2020.

FIGURE 2

U.S. MUSIC INDUSTRY REVENUES 1H 2021

Source: RIAA



*Figures don't add to 100% due to rounding

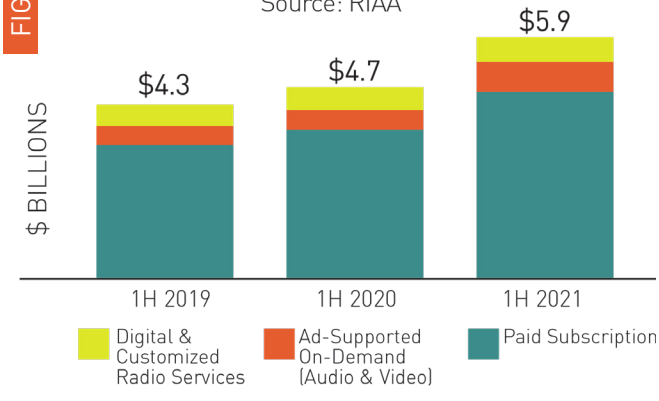
Paid subscriptions continued to account for the largest share of recorded music revenues in the U.S., up 26% year-over-year and totaling $4.6 Billion in 1H 2021. They accounted for nearly 2/3 of total revenues, and 78% of streaming revenue. That carries forward a multiyear trend of strong growth in this area extending beyond the unique circumstances of 2020 – in the two years since 1H 2019, paid subscription revenues have grown a total of 40%.

This total includes $452 million in revenues from "Limited Tier" paid subscriptions (for services limited by factors such as mobile access, catalog availability, on-demand limitations, or device restrictions). Those types of services accounted for 10% of subscription revenues, a slight increase versus 1H 2020.

FIGURE 3

U.S. MUSIC INDUSTRY STREAMING REVENUES

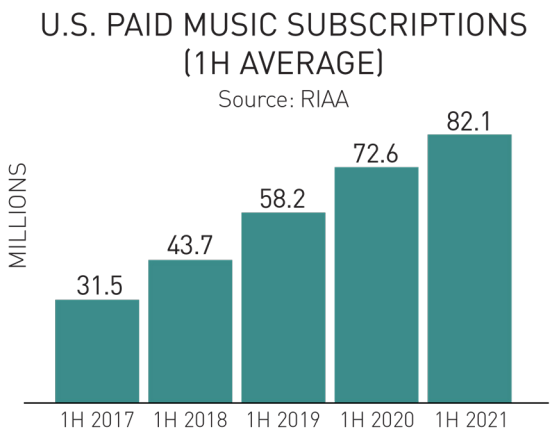
Source: RIAA



RIAA data analysis by **Joshua P. Friedlander**, Senior Vice President, and **Matthew Bass**, Manager

The number of paid subscriptions to on-demand music streaming services continued to increase. For 1H 2021, the average number of subscriptions reached a record 82 million, up 13% compared with 73 million for 1H 2021. These figures count multi-user plans as a single subscription, and exclude limited-tier services.

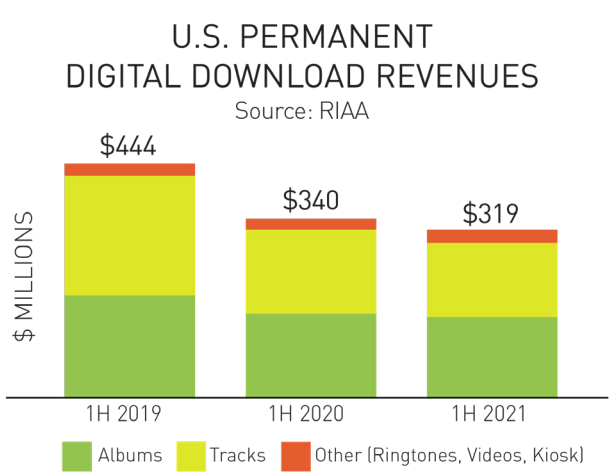
FIGURE 4



Advertising supported on-demand streaming music revenues (from services like YouTube, the ad-supported version of Spotify, and Facebook) rebounded significantly in 1H 2021, growing 54% to $741 million. This category only grew 3% the prior year as it was significantly impacted by the post Covid-19 decline in advertising revenue growth across many forms of media. Even though these services account for hundreds of billions of streams to more than 100 million listeners in the United States, the category only accounted for 11% of total revenues.

Digital and customized radio service revenues grew 3% to $585 million in 1H 2020. This category includes SoundExchange distributions for services like SiriusXM and internet radio stations, as well as payments directly paid by similar services, included in this report as "Other Ad-Supported Streaming".

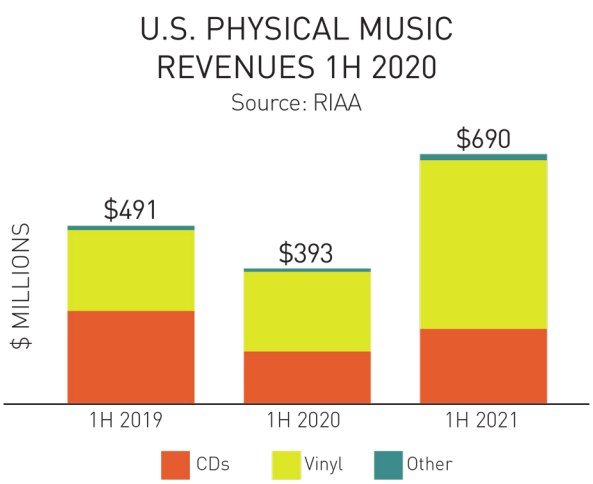
FIGURE 5



Digital Downloads

Permanent downloads declined both in absolute dollars as well as share of total revenue. In 1H 2021, revenues from digital downloads fell 6% by value to $319 million, accounting for 5% of total revenues. Revenues from digitally downloaded tracks and albums were down 12% and 4% respectively from the same period the prior year.

FIGURE 6



Physical Products

Vinyl records continued a remarkable resurgence in the first half of 2021. Revenues from vinyl albums grew 94% to $467 million, though the comparison versus the prior year includes a period in which retail stores were significantly impacted by Covid-19, and Record Store Day 2020 was delayed and did not occur in the spring (as it did in 2021). Revenues from CDs increased 44% to $205 million, but still remain 19% lower than they were in 1H 2019. CDs only accounted for 30% of physical revenues, while vinyl accounted for more than 2/3 of physical format revenues.

PLEASE READ THE COMMENTARY OF MITCH GLAZIER, CHAIRMAN AND CEO, HERE: MEDIUM.COM/@RIAA

NOTE – Historical data updated for 2017 – 2020. Formats with no retail value equivalent included at wholesale value. RIAA presents the most up-to-date information available in its industry revenue reports and online statistics database: https://www.riaa.com/u-s-sales-database

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MID-YEAR 2021
RIAA MUSIC REVENUE STATISTICS

For a list of authorized services see www.whymusicmatters.com

United States Estimated Retail Dollar Value (In Millions, net after returns)

DIGITAL SUBSCRIPTION & STREAMING

		1H 2020	1H 2021	% CHANGE 1H '20 to 1H '21
(Units) (Dollar Value)	**Paid Subscription[1]**	72.6 $3,307.1	82.1 $4,130.6	13.0% 24.9%
	Limited Tier Paid Subscription[2]	$338.5	$451.5	33.4%
	On-Demand Streaming (Ad-Supported)[3]	$480.5	$741.3	54.3%
	SoundExchange Distributions[4]	$467.7	$487.0	4.1%
	Other Ad-Supported Streaming[5]	$97.5	$97.8	0.3%
	Total Streaming Revenues	**$4,691.3**	**$5,908.4**	**25.9%**

DIGITAL PERMANENT DOWNLOAD

(Units) (Dollar Value)	**Download Single**	130.3 $158.8	114.4 $140.2	-12.3% -11.7%
	Download Album	16.4 $159.8	15.7 $153.8	-4.5% -3.8%
	Ringtones & Ringbacks	4.4 $10.9	3.6 $9.0	-17.1% -17.1%
	Other Digital[6]	0.8 $10.2	0.8 $15.7	-1.6% 53.6%
	Total Digital Download Revenues	**$339.7**	**$318.7**	**-6.2%**

TOTAL DIGITAL VALUE

		$5,031.0	$6,227.0	23.8%
	Synchronization Royalties[7]	$128.7	$137.0	6.4%

PHYSICAL

(Units Shipped) (Dollar Value)	**CD**	10.7 $142.7	16.1 $205.3	50.2% 43.9%
	LP/EP	9.1 $240.9	17.0 $467.4	85.7% 94.0%
	Music Video	0.4 $7.1	0.5 $10.6	22.4% 49.2%
	Other Physical[8]	0.1 $2.0	0.4 $6.8	217.7% 230.3%
	Total Physical Units **Total Physical Value**	**20.3** **$392.7**	**33.9** **$690.1**	**66.6%** **75.7%**

TOTAL DIGITAL AND PHYSICAL

	Total Units[9] **Total Value**	**172.3** **$5,552.5**	**168.4** **$7,054.0**	**-2.3%** **27.0%**
	% of Shipments[10] Physical Digital	**1H 2020** 7% 93%	**1H 2021** 10% 90%	

Retail Value is the value of shipments at recommended or estimated list price
Formats with no retail value equivalent included at wholesale value

Note: Historical data updated for 2020

[1] Streaming, tethered, and other paid subscription services not operating under statutory licenses
Subscription volume is annual average number of subscriptions, excludes limited tier

[2] Paid streaming services with interactivity limitations by availability, device restriction, catalog limitations, on demand access, or other factors

[3] Ad-supported audio and music video services not operating under statutory licenses

[4] Estimated payments to performers and copyright holders for digital and customized radio services under statutory licenses

[5] Revenues for statutory services that are not distributed by SoundExchange and not included in other streaming categories

[6] Includes Kiosks, music video downloads, and starting in 2016 other digital music licensing

[7] Includes fees and royalties from synchronization of sound recordings with other media

[8] Includes CD Singles, Cassettes, Vinyl Singles, DVD Audio, SACD

[9] Units total includes both albums and singles, and does not include subscriptions or royalties

[10] Synchronization Royalties excluded from calculation

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Amazon Seller Fees: Cost of Selling on Amazon in 2021

REVIEWED BY:
Meaghan Brophy

WRITTEN BY:
Agatha Aviso

PUBLISHED SEPTEMBER 30, 2021

Table of Contents

The four primary Amazon sellers fees are sale-related fees, seller account fees, shipping costs, and Amazon FBA fees. Sale-related fees range from 6% to 45% of the product's selling price, with the average seller paying 15%, and account fees range from $0 to $39.99 per month. You'll also need to fulfill and ship your order, the cost for which will vary widely depending on your product.

We walk you through each type of Amazon seller fee below and show you how to estimate the fees you'll pay for each product you sell on Amazon.

1. Amazon Sale-Related Fees

There are three types of Amazon seller fees that you may pay when you **sell products on Amazon**: referral fees, minimum referral fees, and closing fees. These fees vary based on your **item category** and **selling price**, so getting an accurate picture of your particular costs might take a little research. Here's a snapshot of these fees, and we'll examine each in detail below:

Seller Fee	Amount	Based on
Referral Fee	Ranges from 6% to 45%, most sellers pay 15%	Category
Minimum Referral Fee	$0-$2, if referral fee is under minimum fee	Category
Variable Closing Fee	$1.80	All Media Categories

Referral Fees

All Amazon sellers, both Individual and Professional accounts, pay a referral fee for every item that sells on Amazon. The two things that determine your referral fee are:

- **Your product category**
- **Your selling price**

Referral fees are a percentage of your product's selling price. Most sellers pay, on average, a 15% referral fee. But, these fees can range from 6% to 45% depending on which categories your products fall under. You can determine exactly what referral fees you'll pay on the products you sell by checking **Amazon's Seller Fee Schedule**, which lists referral fees for specific Amazon categories.

Minimum Referral Fees

Amazon assigns a **Minimum Referral Fee** to some (not all) categories. This is usually $1, but is $2 for the jewelry and watch categories. If a category in which you sell has a minimum referral fee, **you'll pay the greater of the two fees** (not both!) based on your product's selling price.

Example of Amazon's Referral Fees & Minimum Referral Fees

The following products sell in Amazon's Home and Garden category. This category has a **15% Referral Fee**, but also has a **30 cent Minimum Referral Fee**. Here are the fees that sellers pay on two items with different selling prices:

	Single Drink Coaster	**Set/4 Throw Pillows**
Selling price	$1.50	$24.99
15% Referral Fee	22 cents not applied since it's less than 30 cents	$3.75 applied since it's greater than $1
Minimum Referral Fee	30 cents applied since it's greater than 22 cents	N/A

The drink coasters' 15% referral fee is 22 cents, which is less than 30 cents. So, Amazon applies the **30 cent Minimum Referral Fee**. However, the throw pillows' 15% Referral Fee is $3.75, which is greater than 30 cents. So, the **$3.75 Referral Fee** is what Amazon applies when this item sells.

> Remember, in categories with Minimum Referral Fees, the **greater of the two fees** is what Amazon applies. You can see which categories have Minimum Referral Fees on Amazon's **Seller Fee Schedule**.

Closing Fee

Amazon charges an additional fee for products sold under its media categories. This fee is the **Closing Fee** and it's a **flat $1.80 fee** which is **added on top** of the Referral Fees for items in any media category, including:

- Books
- DVD
- Music
- Software and computer/video games
- Video
- Video game consoles

Did you know?

Amazon takes its cut from your payouts, which happen every 14 days. However, Amazon also holds funds from each sale for seven days after a product is received to account for any unexpected charges. And, you'll likely need to wait an additional three to five days for funds to be deposited into your bank account after the payout.

If Amazon is your main source of sales, this slow payout schedule can seriously impact your cash flow. While you can't change Amazon's payout schedule, you can get daily payments using a service called Payability.

Payability is a factoring service that connects to your Amazon Pro Seller account, tracks your sales, and offers daily direct deposits based on your sales for a 2% fee.

Now that we've covered the costliest fees that Amazon charges its sellers, let's look at the other primary Amazon seller fee: account fees.

2. Amazon Seller Account Fees

Amazon offers two types of **Amazon seller accounts**. The fees and features of each are geared toward the specific selling needs of low-volume individuals and high-volume business sellers:

Account Type	Best for	Monthly Fee	Listing fee
Individual Seller	Individuals and occasional business sellers	$0	99 cents per item sold
Professional Seller	Businesses and volume sellers	$39.99	$0

Along with the differences in fees, each type of account offers features that accommodate small or large sellers' particular needs.

Individual Seller Accounts

Professional Seller Accounts

Which Account Is Best For You?

If you're an established ecommerce seller moving to Amazon, the Professional Seller account is your best pick. The Individual Seller account is very limited in comparison and requires more hands-on management.

However, if you're just starting to **sell products on Amazon**, you can get started on Amazon with no up-front costs at all using an Individual Seller account. It costs $0 to register an Individual Seller account and list products. You're only charged fees when your product sells. In fact, you're not even "charged." Amazon takes its cut from your payout, so you really don't pay a dime out of pocket.

So, we've examined the sales-related and account fees that you'll encounter selling on Amazon. Next, we'll explore your operational expenses such as shipping and **order fulfillment**.

3. Shipping Credits & Costs

These are not seller fees, but they can cost you money if you're not careful. If you ship Amazon orders yourself, Amazon pays you a shipping credit on every sale to cover your shipping costs, but there's a catch. The credit it pays sellers is generally low compared to the shipping rates you actually pay to ship orders.

Depending on what you sell and the total size and weight of each package you ship, you may wind up spending far more to ship orders than you receive from Amazon's shipping credit. To ensure you don't lose all of your profits to shipping costs, you need to know how much you'll get from Amazon for each item you sell.

You can use the **Amazon shipping credit chart** below to estimate your credits for each product:

Domestic shipping credits

Amazon charges buyers the following rates for orders shipped within the United States. You receive a shipping credit in the same amount.

Category	Standard*	Expedited*	Two Day**
Books	$3.99	$6.99	$14.95
Music	$3.99	$6.19	$14.95
Videos	$3.99	$6.19	$14.95
DVDs	$3.99	$6.19	$14.95
Video Games	$3.99	$6.99	Not available
Software & Computer Games	$3.99	$6.99	Not available
All other categories	$4.49 + $0.50/lb.***	$6.49 + $0.99/lb.***	Not available

* Includes APO, FPO, and U.S. Protectorate addresses.

** Two-Day Shipping is available to eligible sellers only. Learn more about Premium Shipping options.

*** Refers to the weight of the item, excluding the seller's packaging.

(Source: Amazon)

To see if credits will cover your products' shipping costs, use the chart above to figure out what Amazon will pay you for shipping when your products sell. Then, compare these amounts to your actual shipping costs. If you sell small, lightweight items, you might come out ahead. But if your products ship in large and/or heavy boxes, you might find you'll lose on every sale.

One thing that can lower your shipping costs dramatically and boost your Amazon profit is shipping software. With it, you can quickly compare costs and automate your shipping tools.

Some shipping software, like Stamps.com, imports orders directly from your Amazon account, selects the best shipping rate based on price, offers discounted postage rates, and even emails tracking information to your customers. This helps you ship every order at the lowest possible rate while shipping more efficiently. **Visit Stamps.com** to start a four-week trial and get $5 in free postage.

Figuring your shipping credits vs actual shipping costs is vital in determining whether you can price items profitably. You'll likely find that Amazon is feasible, and even ideal, for certain items, but may not be right for everything you sell.

In fact, shipping costs are a top reason that Amazon sellers, especially Professional Seller account holders, turn to **Fulfillment by Amazon (FBA)** to ship the goods they sell on Amazon.

Want to get this article as a PDF? Click here to get it for free.

4. Fulfillment by Amazon (FBA) Fees

Both Individual and Professional sellers can use FBA to stock, pack, and ship their Amazon products. Of course, Amazon charges fees for this, but many Amazon sellers find the FBA fees are quite reasonable for certain items. Plus, it takes time-consuming daily order packing and shipping tasks off your shoulders and even makes your items Prime-eligible.

FBA fees vary based on product size and weight. Like every other facet of selling on Amazon, you need to understand the total fees you'll pay to store and ship your products with FBA before jumping onboard.

> **Interested to know how FBA compares to other fulfillment solutions?** Read our top picks for **best order fulfillment services**.

FBA Fees Cover 2 Services

Amazon's FBA fees are pretty streamlined; they compile all of the picking, packing, and shipping costs into one charge, and the other charge is for inventory storage. FBA fees include boxes and packaging, and even covers returns handling if your buyers return items to Amazon.

The two types of FBA fees you'll see are:

- **Pick, pack, and weight handling fees:** This is your entire pack-through-shipment fee, including your shipping cost.
- **Monthly storage fees:** This is the cost of storing your products in Amazon's warehouse.

Product Size Determines FBA Fees

FBA fees are based on the size of the product you're storing and shipping. Size includes any packaging for your product, such as shoe boxes, blister packs, or retail packaging. Amazon divides FBA products into two size categories:

- **Standard-sized products:** Standard-sized items, fully packaged, must weigh less than 20 pounds and not exceed 18″x14″x8″.
- **Oversized products:** Any item over 20 pounds and/or exceeding 18″x14″x8″ is considered oversized.

> **Remember:** The FBA fees below are **added on top** of the Referral and Account Fees discussed earlier.

On June 1, 2021, Fulfillment by Amazon (FBA) fulfillment fee changes took effect. Click the tabs below for a look at how FBA fees stack up based on size and item type:

2021 FBA Fees (excluding apparel)

2021 FBA Fees for Apparel

FBA Inventory Storage Fees

FBA also charges inventory storage fees. These rates are higher during the October-December holiday season. These storage rates are in addition to referral fees, account fees, and fulfillment fees.

Monthly Inventory Storage per cubic foot	Standard Size	Oversize
January - September	75 cents per cubic foot	48 cents per cubic foot
October - December	$2.40 per cubic foot	$1.20 per cubic foot

If you're considering FBA, you need to be aware of other fees that can creep onto your bill. These include **long-term storage fees** and relabeling fees for improperly labeled products. If you don't stay on top of these, your profits can slip away. So be sure to understand all of the FBA fees you might face if you go that route.

> To learn more about FBA fees, read our **full FBA review**.

Amazon Fee Frequently Asked Questions (FAQs)

Is FBA cost per unit based on units sold or units stocked?

FBA's storage fee is all you'll be charged if nothing sells during the month. Your pick-pack-ship fees are on top of your storage fees and tally up as items sell and orders ship. If you let your stock sit unsold for too long, FBA tacks on added fees for aging stock, so you want to watch that.

Does the FBA fee preview include the referral fee?

The Amazon seller fee is a separate fee but the FBA fee previewer does include both the Seller Fee and FBA estimated fee in your cost estimates—here is specifically what the Amazon Fee Preview page states:

> "The Fee Preview column showcases the core fees for Selling on Amazon and Fulfillment by Amazon for a given product. The Fee Preview is only an estimate and does not include all fees that may apply. The fees shown are based on the list price, estimated shipping cost (where applicable), and available data for the product in our system. Actual fees may vary and are subject to change."

Bottom Line

Nearly half of US **online sales** happen on Amazon. The marketplace pulls in a mighty big pool of shoppers looking to buy. In fact, it's estimated that more than half of online shopping searches start on Amazon. If you

want to hit roughly half of shoppers looking to buy online every day, you need to start selling on Amazon. But there are costs involved.

The difference between profit and loss can be slim on every item you sell, so it's vital that you understand all of the fees and costs that go into selling on Amazon. If you do, you'll be able to find profitable products and enjoy success on this huge, ever-growing marketplace. If you're ready to get started, read our guides below:

- **How to Sell on Amazon**
- **What to Sell on Amazon**

About the Authors

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Meaghan Brophy is Fit Small Business's authority on retail and ecommerce. She has provided content and guidance for indie retailers for years as the editor for Independent Retailer, a **RetailWire BrainTrust** panelist, and speaker at trade shows such as the Independent Retailer Conference, UpperDeck, and NY NOW. She is frequently quoted as a retail expert in top publications like **The Washington Post**, Forbes, **NBC News**, Business Insider, Reader's Digest, and **Retail Dive**.

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Agatha Aviso is a writer of the Reviews Section at Fit Small Business, focusing on order fulfillment and eCommerce platforms. Agatha has a decade's worth of experience writing online content for small business and marketing industries. She also served as a content strategist and digital marketing manager for many entrepreneurs.

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COEX-8.12

Time with Tunes: How Technology is Driving Music Consumption

nielsen.com/us/en/insights/article/2017/time-with-tunes-how-technology-is-driving-music-consumption/

On average, Americans spend just over 32 hours a week listening to music in 2017, up 5.5 hours over last year. How is this possible? Technology. At home, at work and traveling in between, people are consuming more music than ever before, from more devices.

New technology and the latest gadgets allow listeners to seamlessly engage with music anywhere, anytime. Smartphones, laptops and tablets are among top devices for music engagement at home, and radio still dominates in-car listening, but new technology is becoming more and more relevant.

Music listeners use an average of 3.4 devices in a typical week to engage with music (teens and Millennials average 3.8). Those who currently pay for streaming services use an average of 4.8, while weekly AM/FM radio streamers use an average of 5.5.

While smartphones, laptops and television are still the most popular ways we listen to music, newer tech is becoming more mainstream, further personalizing at-home and in-car music experiences. Consumers are now incorporating voice-controlled devices and high-end specialized headphones into their weekly listening habits.

U.S. music listeners value both quantity and quality, with 30% saying they're willing to pay more for top-quality music technology. That number climbs to 40% among Millennials.

More information on the preferences and behaviors of music listeners in the U.S. are included in the 2017 Music 360 Report, with highlights found here.

COEX-8.13

COEX-
8.13

MUSIC CONSUMER PROFILE - 2020

	Overall	Gen Z (13-26)	Millennials (27-41)	Gen X (42-55)	Baby Boomers (56-75)
GENDER (Note some columns don't add exactly to 100% due to rounding)					
Male	48 %	49 %	51 %	47 %	44 %
Female	50 %	49 %	47 %	53 %	56 %
Non-Binary*	1 %	2 %	2 %	0 %	0 %
ACTIVITY					
Music Streamers	86 %	93 %	94 %	87 %	72 %
Paid Subscribers	33 %	40 %	51 %	28 %	12 %
Free Streamers	47 %	31 %	33 %	54 %	72 %
Music Buyers	44 %	46 %	58 %	42 %	30 %
CD Buyers	9 %	4 %	7 %	11 %	15 %
Digital Buyers	6 %	4 %	7 %	10 %	5 %
Vinyl Buyers (New)	5 %	5 %	6 %	5 %	3 %
Use Social Media for Music	64 %	87 %	76 %	56 %	37 %
P2P Downloaders	3 %	3 %	6 %	2 %	0 %
Streamrippers	7 %	10 %	10 %	4 %	2 %
RACE & ETHNICITY					
White/Caucasian	75 %	60 %	75 %	79 %	88 %
Black/African American	13 %	20 %	13 %	11 %	7 %
Asian/Pacific Islander	3 %	5 %	3 %	3 %	2 %
American Indian or Alaska Native	1 %	1 %	1 %	1 %	1 %
Other	8 %	14 %	8 %	6 %	3 %
Hispanic	16 %	23 %	20 %	13 %	5 %
Non-Hispanic	84 %	77 %	80 %	87 %	95 %
FAVORITE GENRES**					
#1	Country	Rap/Hip-Hop	Rap/Hip-Hop	Country	Classic Rock
#2	Classic Rock	Pop/Top 40	Country	Classic Rock	Country
#3	Rap/Hip-Hop	R&B	Alternative/ Modern Rock	Pop/Top 40	Oldies

DEFINITIONS

Music Streamer: Listened to music via free/paid online radio or on-demand services in the past year (i.e., Pandora, Spotify, YouTube)

Paid Subscriber: Personally paid for an on-demand music subscription service (not including Amazon Prime subscriptions).

Free Streamer: Stream music but did not use a paid subscription service

Music Buyer: Purchased at least one CD, digital track/album, vinyl record or paid to listen to online radio or on-demand music services in the past year

CD Buyer: Purchased at least one full/ single CD in the past year.

Digital Buyer: Purchased at least one digital track/album in the past year

Vinyl Buyer: Purchased at least one new vinyl album in the past year

Use Social Media For Music: Follows, likes, shares or listens to music or artist on social media platforms

P2P Downloader: Downloaded at least one track for free from a file-sharing service in the past year

Streamrippers: Streamripped at least one song in the past year

***Note:** Small sample size

****Question:** Of the types of music listed below, which are the three that you are most interested in? That is, you not only listen to them occasionally but you actually buy the music, pay to go to concerts, etc. (Select up to 3)

For more information contact, MusicWatch, Inc. | www.musicwatchinc.com MusicWatch

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The New York Times https://www.nytimes.com/2020/10/08/opinion/amazon-antitrust.html

Don't Let Amazon Get Any Bigger

A damning congressional report about Big Tech helps make the case to break up Jeff Bezos' empire.

Oct. 8, 2020

By Stacy Mitchell
Ms. Mitchell is a co-director of the Institute for Local Self-Reliance.

We tend to credit Amazon's enormous reach to its inventiveness. Jeff Bezos has built a logistics operation that rivals UPS and FedEx in the volume of packages it delivers to consumers in the United States. Amazon's Alexa is the dominant operating system in the new arena of voice-enabled devices and web access.

Amazon produces clothing and advanced computer chips, dispenses a growing share of the nation's prescription drugs, markets surveillance services to police departments, and runs a rapidly expanding advertising business.

But the evidence presented this week in a long report by the House Judiciary Committee, following a bipartisan investigation of the tech giants, tells a very different story. Amazon's website forms a choke point through which other companies must pass to reach the market. It has exploited this commanding position to strong-arm other companies, control their means of distribution and drive them out of business.

While the report concludes that Apple, Facebook and Google are also abusing their monopoly power, its findings about Amazon deserve our special attention. Through its marketplace, cloud division and voice interface, Amazon functions as essential infrastructure for an astonishing array of companies and industries. This gives it an extraordinary view into the activities of other businesses and an unparalleled ability to manipulate markets to its own advantage.

Preventing dangerous concentrations of private power is part of the necessary checks and balances of a democratic society, and it is Congress's responsibility. The Judiciary Committee offers several proposals for what Congress should consider doing; the most important is its suggestion to break up Amazon and the other companies in "structural separations."

To better understand why, it's helpful to take a closer look at exactly how Amazon became such a force.

Amazon used to rely on other carriers. Today it controls a major share of the logistics industry. It's now delivering two-thirds of the items ordered on its website and a growing share of those purchased on other sites, such as eBay. Analysts expect Amazon to surpass UPS and FedEx in total package volume by 2022. It's also rapidly gaining on the Postal Service, which saw its parcel volume shrink last year, in part because of Amazon's inroads.

Amazon accomplished this feat not just by competing with these other carriers on price and service. Rather, it exploited its control over the many businesses that depend on its website to reach consumers. It did this by making a seller's visibility on its site, which dominates e-commerce traffic, largely contingent on buying Amazon's warehousing and shipping services. Not surprisingly, the share of sellers using these services has skyrocketed and now tops more than 85 percent.

Amazon's path to commanding the voice sector began with a series of acquisitions, including a British company that had created software with a remarkable grasp of natural language. That technology, on which Alexa was built, gave Amazon a crucial head start. It then leveraged its dominance in e-commerce and sheer size to take over this emerging field.

One tactic involved frequently putting its Echo line of smart speakers on sale, which some saw as effectively selling them at a loss. While Amazon can rely on revenue from other parts of its empire to subsidize such loss leaders, smaller competitors, such as Sonos, can't do the same.

Sign up for the Kara Swisher newsletter, for Times subscribers only. The host of the "Sway" podcast shares her insights on the changing power dynamics in tech and media. Get it in your inbox.

Amazon also restricted competitors from promoting their speakers on its site. And entrepreneurs told The Wall Street Journal that Amazon appeared to use its venture capital arm, the Alexa Fund, to help develop competing products. (Amazon has disputed their account.) Eight months after investing in the start-up Nucleus and getting an up-close look at its proprietary information, for example, Amazon announced an Alexa-enabled device that did many of the same things as Nucleus.

These tactics have put rivals at a distinct disadvantage, no matter how superior their products. Echo now accounts for nearly 70 percent of the U.S. smart-speaker market. And with Alexa functioning as the intermediary between users and the appliances and services they interact with, Amazon has gained a rich stream of data that it can use to expand into still more industries.

Mr. Bezos has often described Amazon's strategy as a "flywheel" — the idea that momentum in each area of its business drives momentum in the others, creating a machine that spins ever faster. This is a metaphor for monopolization. Amazon exploits its power in one sector to take over neighboring markets. Each new conquest adds more momentum. The flywheel accelerates.

And it poses a considerable threat to American vitality. Investors talk of a "kill zone" for start-ups around the tech giants — broad segments of the market that lack competition because new entrants are seen as doomed and cannot attract investment.

It's not only the big ideas that we're in danger of losing; independent businesses are disappearing, and with them a crucial source of new ideas and products. A survey of about 1,000 independent businesses last year showed that Amazon overwhelmingly ranked as their top challenge. Most of those who responded, including most of those selling on its platform, said that Amazon is hurting their business. The loss of these businesses doesn't just dampen innovation; it saps the strength and well-being of communities.

This is why the most important of the Judiciary Committee's recommendations is its call for legislation that would effectively split up big tech platforms like Amazon by breaking them up in "structural separations" and forbidding them from operating in adjacent lines of business to those they are already dominant in.

This approach has been used in the past. In the early 20th century, Congress barred railroads from producing and distributing goods that required rail transport. Policymakers employed a similar approach to telecommunications and banking.

Compelling Amazon to spin off its online marketplace, retail, cloud and logistics divisions as distinct companies would eliminate its ability to exploit its dominance in one part of its business to thwart competition in another.

But that isn't enough to restore a fair and open online market. We also need rules that would require major digital platforms to provide reasonable terms for access to their platforms and bar them from discriminating against companies.

Finally, it's imperative to correct the failings in antitrust enforcement that have enabled Amazon to amass such power and abuse it. In recent decades, the courts and the antitrust agencies have weakened our once strong antitrust laws. As a result, Amazon has been able to vanquish competitors using tactics such as predatory pricing that might have invited criminal prosecution in an earlier era.

This permissive stance, the committee found, has also allowed Amazon to buy up other companies with the aim of snuffing out potential rivals and taking control of emerging technologies. Its report calls for imposing new hurdles on acquisitions by the tech giants and legislation to restore the vigor of the antitrust laws.

Jeff Bezos once led an inventive start-up, but today he commands an impenetrable empire. "No company is likely to pose a threat to Amazon's dominance in the near or distant future," the House investigation concludes. There is no other rival, no matter how smart, creative, or popular, that can change that. Congress will have to step in.

Stacy Mitchell (@stacyfmitchell) is a co-director of the Institute for Local Self-Reliance.

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COEX-8.16

Apple Music's biggest swipe at Spotify yet: Drake's exclusive new album

musicbusinessworldwide.com/apple-musics-biggest-swipe-at-spotify-yet-drakes-exclusive-new-album/

April 10, 2016

April 10, 2016

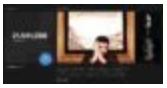
By Tim Ingham

Canadian hip-hop superstar **Drake** was Spotify's biggest artist of last year, clocking up a ridiculous-sounding 1.8bn streams across 46 million listeners.

Today, three years since his last solo studio album 'proper', 2013's **Nothing Was The Same**, Drake continues to pull in **21.5m** monthly listeners on the platform.

It means he's Spotify's seventh biggest artist right now – and that more than a fifth of Daniel Ek's total global active users listened to Drake in the past four weeks.

Later this month, however, those listeners could be in for a bit of a shock.



Drake has just confirmed that his new album, **Views (Aka 'Views From The 6')**, will be released on Friday, April 29.

The big news: it's going to be an Apple Music streaming exclusive – in some sense, at least.

Details of the record were revealed on Beats 1's **OVO Sound Radio** (via Apple Music) yesterday, where Drake said: "Thank you Apple Music – always, man; thank you to Jimmy [Iovine] and thank you to everybody who supported the two singles that we dropped [this week], Pop Style and One Dance.

"I'm excited, man. We're close and I've got something special to share with you."

Drake then tweeted that the release would be an **Apple Music exclusive** – before deleting the missive – but Apple has since confirmed to reporters that he was telling the truth.

We're yet to know what form this exclusive will take and, crucially, how long it will shut other platforms like Spotify – plus **TIDAL**, **Google Play** and **Deezer** – out of the game.

What we do know for sure is that this story has been a long time coming.

Rumours last year suggested that Apple Music had signed a **$19m** deal with Drake, which included some assurances of exclusive material.

Many wondered how such a deal would shake out, but since then, we've seen a series of nods towards a special relationship between the artist and brand:

- In June last year, Drake appeared on stage at WWDC in San Francisco to trumpet, amongst other things, the possibilities of **Apple Music's Connect** platform. He was wearing a jacket emblazoned with the classic Apple logo;
- Drake's biggest single to date, **Hotline Bling**, arrived a month later. It was boosted by a colourful video which, it later emerged, was paid for in full by Apple. It currently has over 654m views on YouTube/Vevo;
- The **OVO Sound Radio** programme, which showcases artists signed to Drake's OVO label as well as other emerging acts, debuted on Apple Music's Beats 1 nine months ago. So far, OVO has recorded and 'aired' 19 shows on the platform;
- Drake & Future's US No.1 mixtape, **What A Time To Be Alive**, was released as a windowed Apple Music streaming exclusive in October last year. It eventually arrived on other platforms including Spotify;
- An OVO signing, the mysterious R&B duo **DVSN** released their debut album as an Apple Music exclusive last month;
- Two new singles from **Views**, Pop Style and One Dance, were released last week and, officially speaking, are 'Apple Music exclusives'.

In terms of streaming's exclusivity wars, this is perhaps the biggest deal yet: Apple Music going out of its way to raidthe appeal one of Spotify's most prominent superstars.

Then again, the nature of this kind of deal is no longer anything like anomalous.

As MBW covered last month, the number of blockbuster artists holding back material from Spotify for even a limited period is growing all the time.

To a range of degrees, it's a strategy that has been followed by artists including Gwen Stefani, Jay Z, Coldplay, The 1975, Dr. Dre, Taylor Swift and Kanye West.

You also have to wonder what TIDAL, which has made its name nabbing exclusives from the biggest R&B/hip-hop artists on the planet, make of Drake and Apple's cosy relationship.

Drake was notable by his absence at the all star TIDAL launch press conference in New York last year, where the likes of Kanye West, Jay Z, J Cole, Nicki Minaj, Beyonce, Usher, Rihanna and Alicia Keys made an appearance.

He appears to have placed his bets elsewhere…Music Business Worldwide

News United States Drake

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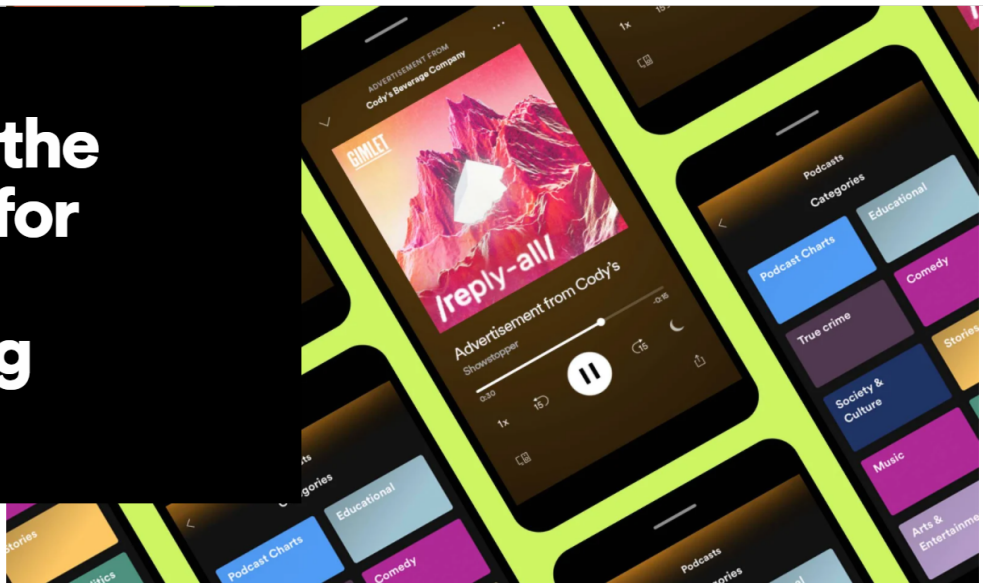
Drake inks exclusive deal with social broadcasting platform Caffeine

COEX-8.17

NEWS

Rewriting the playbook for podcast advertising



Written by
Alex Leung
Senior Product Marketing Manager, Podcast Monetization
January 2020

Introducing data-driven marketing tools to the industry's next big medium

Over the past few years we've seen podcasts evolve from a niche form of media into a mainstream activity that captures the valuable time and attention of consumers. According to Edison Research, over a third of Americans now listen to podcasts, and the most engaged among them are listening to more than 7 podcasts per week. [1]

We've seen first hand that podcasts are a uniquely effective environment: 41% of listeners say they trust ads more if they hear them in a podcast and 81% report having taken action after hearing a podcast ad.[2] However, a lack of clear and equivalent measurement has prevented podcast advertising from truly taking off like its digital media counterparts. Today, despite being a digital medium, the podcast industry measures audience, reach, and impact much like you would a full-page ad in a magazine. Advertisers generally have a sense for who they're reaching, based on survey data and the magazine's target audience. Total circulation measures the number of doorsteps that the issue hits, but there's no precise data on how many readers actually opened the magazine, let alone reached or acted on the ad.

Until now, podcast advertising has experienced many of these same challenges because the medium is still largely downloaded via RSS feeds. But the shift in consumption from downloads to streaming has opened the door for advances in data-driven podcast advertising, and here at Spotify, we're moving beyond these constraints to reimagine what's possible for this uniquely powerful and intimate medium.

Introducing: **Spotify Podcast Ads.**

With a direct connection to millions of podcast listeners, best-in-class content, and a robust monetization platform, Spotify is uniquely positioned to make podcasts addressable for digital advertisers. Spotify Podcast Ads are powered by **Streaming Ad Insertion (SAI)**, which leverages streaming to deliver Spotify's full digital suite of planning, reporting, and measurement capabilities. Spotify Podcast Ads offer the intimacy and quality of traditional podcast ads with the precision and transparency of modern-day digital marketing.

Here are some of the areas we're exploring:

- Reach the audience you want to reach
To date, podcast advertisers have had to rely on audience surveys or inferences about the podcast's content to figure out where to allocate their podcast ad budgets. Spotify Podcasts Ads reach a logged-in user base of millions of listeners. We provide data-driven recommendations and insights to help you reach the right audience.

- Deliver your ads with confidence
In 2016, the IAB unified measurement of "ad delivery" across the industry,[3] but due to the distributed, downloaded nature of podcasting, the new guidelines could not tell advertisers whether listeners actually heard their ads. Spotify Podcast Ads measure real impressions as they occur, reporting on the age, gender, device type, and listening behavior of the audience reached.

- Understand the impact of your investment
Without knowing who actually heard an ad, podcast advertisers have largely been unable to measure the impact of their podcast advertising through typical digital media practices like brand lift studies or conversion reporting. To date, podcast advertisers have found creative ways to directionally indicate whether their ads resonated through tactics like coupon codes and vanity URLs. With Spotify Podcast Ads, we will be able to tap into our suite of digital measurement capabilities to learn more about how people perceive your brand and take action after hearing your ad.

As you might guess, all of this makes for a vastly improved podcast advertising experience. Which is a huge win for brands. As Joel Withrow, Sr. Product Manager of Podcast Monetization at Spotify says, "In the past five years, podcasts have become a staple of pop culture. In that time, I've spoken to a lot of skeptical brands, and the conversation consistently begins and ends with measurement. I'm excited to continue evolving the medium at Spotify. With our trusted, logged in audience, we can finally prove out the effectiveness of podcasts with the data and insights that digital advertisers expect." Before coming to Spotify, Withrow played a key role in launching Megaphone in 2014, which popularized Dynamic Ad Insertion ("DAI") with leading podcast publishers like the Wall Street Journal and Gimlet Media.

One brand that has jumped on board is Puma—it was among our first partners to alpha test Spotify Podcast Ads powered by Streaming Ad Insertion (SAI). By teaming up with Jemele Hill, the host of Spotify original podcast Jemele Hill Is Unbothered, the iconic footwear brand drove ad recall lift of 18 points.[4]

"Podcasts have long been a highly compelling advertising environment, but we've been hesitant to dive in given the medium's well-known limitations," says Gabrielle Rossetti, Executive Vice President of Strategy at Havas Media. "Naturally, we were eager to test Spotify's new podcast ad tech and have an influencer like Jemele endorse our new line of sneakers the Clyde Hardwood. We're excited to continue partnering with Spotify to push the boundaries of podcasts."

This launch opens up endless possibilities for podcast advertising. So keep listening. We're just getting started.

1 Edison Research & Triton Digital, The Infinite Dial 2019
2 Crowd DNA & Spotify, "We're All Ears," US, 2018
3 IAB: Podcast Measurement Guidelines
4 Spotify Internal Data, December 2019

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Spotify's Head of Global Ads Business and Platform Jay Richman Talks New Spotify Podcast Ads

newsroom.spotify.com/2020-01-08/spotifys-head-of-global-ads-business-and-platform-jay-richman-talks-new-spotify-podcast-ads/

January 8, 2020

Jay Richman, Spotify VP, Head of Global Ads Business and Platform, has spent his career at the intersection of digital media and ad tech. His positions at NBCUniversal, Scholastic, and Bertelsmann taught him how to build consumer ad experiences that deliver for companies, brands, and creators. In his role at Spotify, he especially takes pride in delivering standout promotional experiences for consumers, artist teams, and brands—helping to bring free music and podcasts to the world.

This week, Jay is representing Spotify at the Consumer Electronics Show (CES), a major annual convention that looks ahead to the future of consumer technology (last year's event had over 180,000 attendees). He's excited to explore topics like IoT (internet of things; a.k.a. the devices that orbit smartphones), and how AI is being integrated into smart earbuds.

But he's also part of a major announcement for Spotify: the unveiling of **Spotify Podcast Ads, powered by Streaming Ad Insertion (SAI)**. At first glance it seems like a lot to unpack, so we caught Jay at the start of the conference to learn what this means for podcasts lovers and creators, and the brands that back them.

Today Spotify announced Spotify Podcast Ads powered by Streaming Ad Insertion (SAI) which leverages the power of streaming to deliver Spotify's full digital suite of planning, reporting, and measurement capabilities to podcast advertisers.

So, break it down for us. How does this change things for podcasters, advertisers, and listeners?

First of all, I'm super excited to be launching Streaming Ad Insertion for Spotify Podcast Ads this week. We're essentially taking all that's great with podcast ads today and adding real-time targeting, measurement, and interactivity to them, none of which exists in the industry as it stands today.

SAI will make podcast ads targetable—they'll be relevant to the people who get them; measurable—we'll more easily prove that they're effective; and interactive—more to come here—*for the first time*. This will make the podcast ad experience more personalized for podcast fans, introduce performance metrics for advertisers, and allow creators to better monetize their content and make money off their hard work.

Why is this different from podcast advertising as it exists today?

Think of it this way: Podcast ads—until now—were actually more like magazine ads, versus the ones that we've all become accustomed to on the internet, which are personalized based on the content we're reading or the video we're watching. That's because the podcast ads themselves came downloaded with content regardless of who is listening.

Now, with the shift to streaming, we can serve ads in real time based on who you are and what you're interested in, and we can understand whether or not the ad was actually listened to. Soon we'll be adding interactivity so users can directly engage with podcast ads without needing to remember, say, the coupon codes. We're really excited about what this means not just for Spotify, but the industry overall.

You mentioned that this is an industry first. How does this set the stage for the future of podcast advertising across the industry?

It's no surprise that Spotify is making big investments in podcasts—from content to the user experience with playlists like Your Daily Drive and now advertising, starting with SAI. What we're doing is providing the industry with an example for what podcasts can do moving forward, adding another way to showcase just how remarkable the medium is.

Our research shows that a staggering 81% of listeners have taken action after hearing audio ads during a podcast. This means that podcast ads are already effective in allowing creators to earn more off their hard work. So with SAI, we're taking formats that traditionally have

been more of a static experience and making it a more personalized and attractive one. It's not just about reach and numbers, but about impacting the ideal audience and knowing it. It's a great opportunity for brands to have measurable impact.

Today, SAI is only available for Spotify originals and exclusives. When is this offering going to be available for a larger set of creators?

We're starting with Spotify originals and exclusives as a part of the testing phase. This represents a first step into a super exciting space that will benefit consumers, creators, and Spotify alike. At Spotify, we are constantly innovating. Sometime down the line we might expand this to more audiences. This is just the beginning of a long-term journey.

On a more personal note, are there any podcasts that you've been especially into recently?

Well, I just finished a series called *S-Town* by the producers of *Serial* and *This American Life*. It documents a brilliant yet deeply disturbed man who despises his Alabama town. I found the series to be pretty suspenseful and gripping, like a murder mystery. I don't want to spoil it, but definitely one worth checking out.

Want to learn more about Spotify Podcast Ads and Streaming Ad Insertion? Head to Spotify for Brands.

COEX-8.19

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8.19

How Spotify Is Strengthening Our Investment in Podcast Advertising With Acquisition of Megaphone

newsroom.spotify.com/2020-11-10/how-spotify-is-strengthening-our-investment-in-podcast-advertising-with-acquisition-of-megaphone/

November 10, 2020

Less than two years ago, we announced that audio—not just music—would be the future of Spotify. We believe that streaming audio, including music and podcasts, is poised to be the next great frontier for listeners, creators, and advertisers.

That's why today, we're excited to announce Spotify's acquisition of Megaphone, one of the world's leading podcast advertising and publishing platforms.

The acquisition of Megaphone represents the next step in Spotify's expanding the possibilities of this intimate and screenless medium. At the top of the year, we launched Streaming Ad Insertion, an innovative podcast ad technology that delivers the intimacy and quality of traditional podcast ads with the precision and transparency of modern-day digital marketing. The results of Streaming Ad Insertion have been encouraging to say the least and have further validated our commitment to the significant potential of podcast advertising.

So what does Spotify + Megaphone mean for the growth of the podcast industry?

Delivering Scale to Podcast Advertisers

Advertisers are ready to realize the full potential of podcasts. The combination of Spotify and Megaphone will allow them to activate across Spotify's Original & Exclusive podcasts while scaling reach through the Megaphone Targeted Marketplace.

Creating Added Value for Podcast Publishers

Together, Spotify and Megaphone will offer podcast publishers innovative tools that will help them earn more from their work. This includes the opportunity to opt in to have their content monetized, matching their loyal listeners with even greater demand from advertisers. And we're excited to share that, once we come together, we will soon make Streaming Ad Insertion available to podcast publishers on Megaphone, the first time this technology will be made available to third-parties. That means that podcast publishers will be able to offer more-valuable podcast audiences to advertisers based on confirmed ad impressions (i.e., that their ad was actually heard).

We've already seen our investment in audio pay off. In our Q3 earnings, we announced that 22% of our total monthly average users (MAUs) engaged with podcasts last quarter and that podcast advertising revenue is up nearly 100% year over year. This comes alongside innovations like our first-of-its-kind format for creators to bring together music and talk, and mixed-media playlists like Your Daily Drive. Our podcast catalog now includes over 1.9 million titles that feature storytelling, sports, education, and wellness from diverse voices across the globe, and the world's top creators—from Michelle Obama and Brené Brown to Addison Rae and DC Comics—come to Spotify to connect with their fans and meet new ones.

From groundbreaking authentic voices to can't-miss news and information, podcasting is one of the most exciting mediums of our time. We are excited to collaborate with Megaphone to drive this business forward.

The transaction is subject to customary regulatory review, and it is business as usual until closing.

*To learn more, head to the Spotify Advertising blog for a Q&A with **Jay Richman**, Spotify VP Global Head of Advertising Business, and Megaphone CEO **Brendan Monaghan**.*

COEX-8.20

Seeking Alpha

Transcripts | Technology

Spotify Technology's (SPOT) Management Presents at Bank of America Securities 2021 Media, Communications and Entertainment Conference (Transcript)

Sep. 14, 2021 4:52 PM ET | **Spotify Technology S.A. (SPOT)**

SA Transcripts
120.2K Followers | Bio

Play Earnings Call

Spotify Technology SA (NYSE:SPOT) Bank of America Securities 2021 Media, Communications and Entertainment Conference Call September 14, 2021 2:20 PM ET

Company Participants

Paul Vogel – Chief Financial Officer

Conference Call Participants

Jessica Reif Ehrlich – BofA Securities

Jessica Reif Ehrlich

Good afternoon, and welcome back, everybody. I'm Jessica Reif Ehrlich, senior media and entertainment analyst at BofA Securities. And I'm thrilled to have Spotify with us today. Paul Vogel, CFO who is joining us. So Paul, welcome. Thank you.

Paul Vogel

Well, thanks for having me.

Jessica Reif Ehrlich

That's great. So what a year it's been for Spotify. I mean, it's you – just you've grown the core business, the core music business solidly. You've invested in podcasts. You've raised subscription prices across select markets, it's about products, but some of the major ones. You've also launched into 85 markets. You've rolled out new creative tools. I'm probably leading out 10 things. But it's been a pretty busy year for you guys in the midst of a pandemic.

And that all kind of started when you became CFO, its all of this has been just become CFO in the last year or so. So how would you characterize Spotify's positioning today, as we exit somewhere and head towards 2021 and is 2022?

Paul Vogel

Yes. I mean its – you're right, it's been a lot. As you can actually tell, I'm actually in the office today, which is, I think, the fourth time I've been in the office in the last 18 months. And we're actually spending time together as a executive team all in person together for the first time in a very long time, which has been great. So that's pretty exciting. And, yes, to your point, all of this happened, I think I took over for Barry on January 1 of 2020. And then we went into work from home about two months later. So it's been the majority of the time, we've done all this remote.

But you what that being said, I think that we're super pleased with how the last year and a half two years has gone on. If you look at and I take a step back and say okay, what were the forecasts, and what are we thinking we would do, what we accomplished, when I took over and I'd say we've kind of hit or planning to hit or exceed all of the metrics we thought we'd be kind of midway through the year and at the end of 2022. So we're super pleased with the overall MAU growth over the last few years, the overall subscriber growth, revenue growth, improvements in ARPU, improvements in gross margin.

And so in general, we feel really good about how the business has performed. And obviously, we've talked at length about this on our earnings calls, if you look at the top of the funnel, MAU was exceptionally strong in 2020 as quite as strong in 2021, but still growing very nicely. And then when you look at again, where we think we'll end 2021, we are on pace if not expected to exceed most of where we thought we'd be when you look back again over this timeframe over the last 18 months to 20 months.

So again, there was a really good at MAU position for good about the subscriber growth. We feel good about revenue growth and the fact that ARPU on FX neutral basis was reasonably flat in the last quarter, and our expectation is that ARPU will increase in the back half of the year is encouraging for us. And the gross margin that was about 26% feeling good about those trends as well. So again, we've done a lot. We've launched a lot of new markets, a lot of new products, innovation across podcasts and music. But I think we feel like we're a pretty healthy position right now.

Jessica Reif Ehrlich

So COVID has been a challenge to many of the businesses we cover, but it's actually been helpful to some others. So last year use a strengthened MAU, as you just mentioned, which seemed to benefit from the pandemic, and this year MAU grew up little bit softer, in part to the resurgence of COVID in some markets. So I know you've gotten this question in the past, but it's somewhat clear, how should we be thinking about the impact of the pandemic on your business from here, discovered a headwind or is it a tailwind?

Paul Vogel

Yes. It's been a little bit of both. I know that the there's been some variability in terms of sort of the numbers and where we've been, but so if you take a step back to your point, you're definitely saw last year from a top line MAU growth. It seems like it was a tailwind, seems it was a lot of people who quite frankly more free time we're home, we're sampling all different services, we definitely feel like we pull forward some user growth into 2020 from 2021.

That being said, not all of the metrics are great in 2020, right. We saw engagement dropping a number of areas, obviously, in card listing went down, overall listing hours per user went down. And so on the overall top of the funnel was really strong. Some of the underlying engagement metrics are its great. And then as you get into 2021, what we see is, we obviously pull forward some users. And so the growth has been strong, but maybe not quite as strong as it was in 2020. But that being said, we've seen a return to user growth – sorry, engagement growth, listening hour per user growth, so most of our – all of our developed markets, and more mature markets are now seeing those sort of engagement metrics at or above COVID levels.

We have some of our more developing markets where they're not at those levels are pre-COVID levels, but they are improving nicely. So we've seen the improvement in engagement trends there. And so in general, it's been obviously a little bit of a mixed bag, we saw the headwinds clearly on the advertising side in 2020. We've had a really strong growth in 2021 on the advertising side there. So it's been a little bit of mixed in general definitely helped on the user growth in 2020, although not so much on the engagement side. And this year is a little bit tougher come from the user side overseeing all the engagement metrics return.

Jessica Reif Ehrlich

Right. So yes, as you look at the balance of the year, what are the most meaningful puts and takes that we should be thinking about in terms of your ability to deliver a strongest second half in terms of MAU. I mean, everybody seems to be focused on this. And there's a lot going on even now, so how should we think about things like new exclusive podcast content, high profile music releases, they've been a number of now, the resumption of marketing campaigns and contributions from newer developing markets?

Paul Vogel

Yes. Well, I think you answered actually a couple of the – a couple of it within the question itself, but I would say, number one is marketing. We talked about this. We turned off on the marketing the first half of the year given what was going on with COVID in a number of markets. And so we've turned back marketing on a number of areas in this back half of the year, and we expect that we'll have a positive impact on MAU growth. Same thing with some of our newer market launches. Those take time to get going at times, if you look at some of our history, we had Russia would be a market that took off way faster than we thought.

And we had much better growth early on. India was a market where for a year didn't really grow, maybe as well as we would like them and it really took off a year later. And so there tends to be variability and a lot of the new markets where we launch and getting our footing and finding the right marketing things and finding the exact right product market fit sometimes happens right away in some markets, some markets takes a little bit time. So that as we figure out will continue to benefit as, and so you said, you also mentioned sort of the new product launch, we've got a lot of new podcasts on the platform with Call Her Daddy and to actually launch our expert and some continue to add more products, more original product in the podcasting side, which we think will drive engagement and user growth as well.

So it's on the product side, it's on the marketing side, it's on the product market fit side in new markets. And so as we said exiting Q2, we felt like the trends had sort of returned back to kind of where we thought they'd be as relieving Q2.

Jessica Reif Ehrlich

Right. At your Stream On event in February of 2021, so few months ago, you made several announcements, including the expansion into 85 new markets, but you've done already. Well, could you tell us about the progress you've made and the parts of the – in these parts of the world? And what's on the horizon in terms of driving more growth here?

Paul Vogel

Yes. So I guess I read a little bit of the last question. So for us a lot of it is about finding the right voice in a market, right. So we did cut back on some marketing, expected marketing spend in the first half of the year. And we started to ramp it up in the back half of the year. So marketing in general will help. A lot of the markets we've launched in these are newer markets. They have a ton of potential users, but they're less developed, they're less established, lower broadband wireless penetration, but all growing and growing nicely. And so we see a huge opportunity in a lot of those markets. So you can expect this to continue to invest on the advertising side, marketing side, on the product market fits. I think we feel really good about sort of how those market launches have gone so far.

Jessica Reif Ehrlich

Right. And then that you use a basis increasingly global, you have to think about the ARPU implications of this. You've got emerging markets, developing markets, developed markets.

Paul Vogel

Yes. So if you take a look back at ARPU, for the most part, ARPU has been a function of product more so than geography. And so it's really been growth in developed markets and the product portfolio in those developed markets. And so as we added family plan and as family plan grew, you saw subscribers growth, but also the impact of ARPU from having some of these multiuser plans. Same thing occurred with student plan, and some of the other affinity plans we had and so the majority of what had been downward pressure for a couple of years on ARPU was really related to product was actually a very small amount on geographic mix.

And so what you see it in the first half of this year is early on a moderation in the declines in our ARPU, and as I said in Q2 on a currency neutral basis, pretty much a flat ARPU, and then we expect ARPU to grow in the back half of the year. And so that's come from some of the price increases we've announced. In many markets, it's a family plan, some other markets, it's more than just family plan, but a lot it's been on that family plan side. So having some price increases will help us on the ARPU side from that standpoint.

Moving forward, we think geographic mix will become a bigger part of the impact that something will have to consider and think about – as you think the developing markets, where we've had some price increases and you may have – maybe some positive ARPU benefits there. And the geographic mix side, as that becomes a bigger part of our business, rest of the world and those types of markets that are right now about 10%, as they grow, probably have a bigger impact. But right now, we feel good about where we are on the ARPU side, we feel good about the fact ARPU will be up in the back half of the year. And then we'll see as we into 2022, what that really means for ARPU globally, across sort of all of our premium.

Jessica Reif Ehrlich

One of the area that can help revenue and ARPU is obviously advertising, which has been an area of incredible strength in the last quarter was just amazing. And kind of everyone in the industry is talking about how strong the current market is. Can you give us some color discuss your view of like, what makes Spotify different. What is it about your offer that differentiates you from anybody else's or from the audio side? Obviously, there's something in the technology or that makes your products work better?

Paul Vogel

Yes. So I think there's a number of things. One is just our size and scale, right with 365 million users. And just the number of MAU we have and growing is just gives us a scale on the audio side that is large and impactful for advertisers. And in fact that podcasting is growing as a percentage of the platform, and the advertising opportunity there. And the fact that all of our users across all of our products the advertiser here, I'm sorry, you're advertising on the podcasting side is great. So that's kind of number one.

Number two is for the creators and the creator ecosystem we're developing, so on the podcasting side, I'm having anchor and having a platform where 80% of new podcasts are created using the anchor platform, which is something that we own, it helps drive the market will be really helpful. The Megaphone acquisition, and adding all of that increase inventory into the Spotify advertising ecosystem, we think has been a really strong benefit to us as well. Then you throw on top of the content side, so having more of this original content, having more podcast content that is unique and exclusive to Spotify, again, allows us to attract more users, more advertisers, higher engagement which is super helpful.

And then just in general, on the monetization side, we feel like we've really added technology to your point in terms of what's different with streaming ad insertion, dynamic ad breaks, and then having Megaphone and having a tech stack that is adding value into that that overall ecosystem for advertising has been really important for us. And then because all of our users come and they log on, we have a lot of great proprietary first party data that allows us to take what we've done on the technology side and marry with first party data, it's been obviously exclusive to Spotify, which is super interesting for advertisers in terms of targeting and measurement and attribution all the things that they're looking for.

Jessica Reif Ehrlich

That's a really interesting point, actually. But you've talked in the past about being supply constraints with respect to your advertising inventory. What can you do to alleviate the bottleneck? I mean, can you – is there a way to unlock faster growth?

Paul Vogel

Yes. I think it's a couple things. One, it's continuing to grow out platforms like anchor, where more podcasts come on, we get more inventory that we can monetize through anchor. So that's one way. Changes grow the platform in general, so more users, more usage of the free product. So having a better experience on the free product, it gives creates more engagement, which allows – gives the incentive to want to come back more and spend more time there. And then on the podcasting side too, it's having more original content and having more exclusive content that actually grows users and engagement as well.

So to your point and we said this a couple times, we know the demand is there, demand has been really strong. We continue to add way to get inventory Megaphone was another one that was great and continue to expand out the offering of Megaphone across Spotify has been a big benefit to us and will continue to do so as well. So we believe we have the tools, we believe we have the targeting and we're continuing to work at adding an inventory field the monetize even better.

Jessica Reif Ehrlich

Right. But before I get into podcasting, we're getting a ton of investor questions, I'm going to just take one right now. Because I don't want to get too far away from the fact that ARPU, so none of your competitors seem to be following you on ARPU increases or pricing increases. And with the mix shifting towards emerging markets, at lower price points should be expected ARPU to again trend down starting in 2022. So you only trust the back half.

Paul Vogel

Yes. Look, we as you know, we don't – I haven't given any guidance yet for 2022, so I'm not going to sort of address that. I will say we feel really good about the price increases that we've already enacted. I know we get this question a lot, but a lot of where we've increased pricing is on the family plan where you have up to six users for $15, which we think is a really compelling offering.

So adding some differentiation between the standard plan and the family plan, we think has been something that has worked, it's something that really hasn't any material impact on our pro traditions or our churn. And so we feel like it's something that given the premium status we have in the market in terms of where we sit with content with our product in general that we feel good about it. What we do in 2022, we haven't announced it in terms of whether it's pricing increase or geographic mix or growth in different markets we haven't said.

But again, I think we feel good about the fact that admitted that we've had our new clients for the last couple of years. They're pretty significant a couple years ago. They sort of moderated last year and now we're actually seeing positive growth in ARPU for the back half of the year. We feel good about where those trends are. And then we'll have to see kind of how it growth in 2022 and beyond.

Jessica Reif Ehrlich

Thank you. So moving onto podcasting, I mean, you've been a meaningful investor podcast content and this is like roughly two-year into the strategy. Can you tell us what you've – what are the – I guess what have you learned? What has come out of this with respect to driving a tax attractive returns from these investments? I mean, you you've lost money up until today, but I know you've said over and over that you see, so you wouldn't invest more without for – without there's a reason why you're investing what you're investing. So what – and what color can you give us?

Paul Vogel

Yes. So yes, I think what you're referring to is we've said a couple of times that, if you see us continue to invest in the business, it means that we feel good about the investment we're making and that we're seeing the returns that we want to see. And that is still the case. And so I think we feel a couple things. So we feel like we have some really compelling exclusive content. We've talked about all of it whether it's Rogan or The Ringer or Dax, or Call Her Daddy are all the things that Michelle Obama, all the things that we've added into Spotify that has been unique and exclusive to us. It helps bring people into Spotify.

And then from there, we have a bunch of originals and exclusives from Parcast, Spotify Studios Gimlet that actually keeps them in with more an additional unique content. And then we allow them to then discover even podcast and content based on our algorithms and the product we have that keeps them there. And so we feel like that's been successful so far. We've seen it in terms of the growth of podcast users, the growth and podcast engagement, the growth in the number of people who we engage with podcast content.

So we feel really good about that. And then when you look at sort of the trends, we've obviously talked about the fact that the investment podcasting is going to outweigh the revenue growth, and that would be a drag on margins for a period of time. What we have seen is that actually the incrementality of incremental growth and revenue has actually outstripped the incremental growth in cost. And so what we've seen is less of a drag than we expected in the last couple of quarters, we're seeing that revenue come through on the advertising side, which has been great.

And then when you look at some of the content that we've exclusively licensed, you could call some more of our exclusive content or and high price content, when you look at it from a listening hours per user or cost per user basis, it actually continues to come down. It is actually some of our most efficient content on the platform. So we feel really good about the benefits we're getting and engage where we're getting from the exclusive license content that we have on the platform. So that's kind of where we are with and we still feel really good. We feel like we've locked up a number of key assets that will continue to benefit us over the next couple of years.

Jessica Reif Ehrlich

So just on that point, how important are the large celebrities, as you've mentioned like Joe Rogan or Call Her Daddy, Obama, Clinton, whatever, but how important the big names versus the smaller ones and exclusive podcasts to achieving your goals?

Paul Vogel

Yes. I think it's definitely both. I think what's really interesting and helpful is having that exclusive content is it helps bring people onto the platform. And then by having additional exclusive content or original content that we've created or even just serving them up a better recommendation engine to continue. That's what keeps them on the platform. So, we definitely know that having this exclusive content brings them on the platform.

And as I said, some of that that content, some of the most expensive content is actually been the most productive for us in terms of cost per listing our cost per time spent metrics, and you compare that – when you marry that with the revenue growth, we've been able to get through the growth on our podcast advertising. We feel good about the returns we're seeing both from absolute returns, but also what it's doing for the overall ecosystem, and the overall podcasting product. So, yes, and then you see that, obviously, we continue to add on some strategic assets over the last couple of orders.

Jessica Reif Ehrlich

Right. So, I guess you concern that acquiring high profile talents, like, some of the budgeted dimensions, beliefs your frequent, costly renewal cycles, which makes it hard to scale profitably, like, how long will this cycle continue this constant investment cycle?

Paul Vogel

Yes, I mean, we'll see, we're always going to be smart and trading with our investments. And we're always looking to data to suggest where we want to continue to invest? Where we're going to double down? Where we want? And so, obviously, a lot of people are seeing that that their costs are podcasts and podcast assets of that's need to move up. But again, we feel really good about the deals that we struck at the prices and then the timeframes. We'll see what happens in the future with new and/or renewals of podcasts online. But again, I think we feel really good about where we are. I think we feel pleased with the folks we have send on feel excited and proud to be working with Spotify and feel like it's been a good move for them. And so we feel pretty optimistic that that will continue going forward.

Jessica Reif Ehrlich

Right. I mean, one thing that you're not you makes you really unique versus any of your competitors, that at least the ones that we follow, is that you have a global platform. Can you talk about how you leverage that global platform? How important it is to you? Are these trends – are these usable? You use the same content over and over?

Paul Vogel

Yes. So there are assets where we're able to find a format that works and then use it in the market, translate and use different personalities, different hosts, over the scripted podcast, have a similar type of podcasting just recorded with different language. And that works for different markets. And so we think it's trends, that type of thing is transferable. I also think there's products we have on the platform that are very global in nature. Sports can be global, or at least very large in certain regions. You look at things like basketball is a very big global sport, soccer, football are going to do very big, global sports and having personalities that are well known and really successful, and that being able to push them out into a further global audience, we think will be a big opportunity as well.

So, we think we see the opportunity in leveraging products we have in one market where we can recreate similar experiences in other markets that we know work. That's one area. And then the second would be obviously, growing assets that we think have a global appeal, and really taking them to more and more regions and more and more markets.

Jessica Reif Ehrlich

Right. So monetization of third party podcast is a relatively newer opportunities to you. So, if you're successful in driving superior monetization based publishers, which seems like you were on a path to do. What proportion of third party podcasts could potentially be monetized over time? How should be think about that?

Paul Vogel

It's a good question. I do have a percentage, I would say, I think for us, like the number one thing for us is always how do we create an environment where creators can monetize as best they possibly can on our platform. And so as we continue to build out the tools and services on our ad platform that benefits, Spotify and Spotify owned exclusive content, the more we can bring out to third parties who want to participate, I think, the better it will be, when you, I mentioned anchor and megaphone, but both of those assets, we think are ways that podcasters can create an innovate and use our tools, where they'd be able to then also monetize at higher rates using, our tools and services. So, I think there's definitely opportunity for us to continue to grow that and continue to have a larger and larger presence in the audio advertising space.

Jessica Reif Ehrlich

So, let's switch gears to another like topic that everyone loves to talk about, which is your gross margins. So that's the day and I don't know it was actually at the event later on at the analysts part of it, but at the stream one day, you definitely talked about a long term gross margin goal up 30% to 40%. And that's kind of been a B2B like a bull/bear debate among investors like do you really ever get there? So given the variable nature of your cost structure, can you help us think through because it is also a wide range. If you do get to the top end of 40%, in several years, since you never put a time, actually never put a timeframe, by the way, so you didn't say five years or three years or any year. So where you start you get there in several years, what is your business look like at that point? And how would you have gotten there?

Paul Vogel

Yes, so, we haven't put timeframe on that, I will definitely admit to that. I would say, look, there's a couple of things there. One is, we think advertising is going to continue to grow, continue to be a bigger part of our business. Right now, it's 10% of our business. We think there's opportunity to improve the ad margins on the music side alone, because right now they're lower than their premium side. We think there's an opportunity there. And then you delve into the podcasting side where, as you said, as more and more of our business go moves over to a fixed cost nature versus variable costs nature, we think there's a big opportunity to grow gross margin, on top of the podcasting business, and we sort of modeled that over a long period of time.

And even though right now, the podcasted business is actually a drag on gross margins. We think over time, that will flip and will be a benefit to gross margins, if not a significant benefit, the gross margin. So, if you think about it, that sort of 26% gross margin, and that includes some of the drag we've felt from podcasts. Now, again, podcasts and drag is more than less than we thought, because the advertising has been even stronger than we thought. But I think we believe that it will continue on. And we think we have a big opportunity to continue to grow the advertising side there.

So, I think those are today's marketplace continues to grow nicely. It's been a contributor, it's become a more meaningful contributor to gross margin as well sort of continue to build out the marketplace tools and services, to grow those to benefit both gross margins. Those are some of the ways we get there. There's a couple other things we're working on, that we haven't talked about, but we also will be beneficial over time. And so I think what we've kind of said is, we feel if you think about that range of 30% to 40%, including the 40% means a lot, if not most of what we're hoping when right. And we need to 30% is kind of a baseline where we think we can get to without a ton having your right, but just on the baseline going right, and that last 30% to 40% is a budget of incremental stuff, you've been doing better than we thought or some of the newer things we've talked about really hitting. But that's how we think about the trajectory of getting to the gross margin part, if we've talked about.

Jessica Reif Ehrlich

Right. And then long term, is there an opportunity? Do you think there's an opportunity to somehow improve your profitability with the labels?

Paul Vogel

Yes, I mean, I think we'll see. I think we – I wouldn't say, obviously, we think there is. I think those relationships will continue to evolve overtime. We're always negotiate with them, there's always things we want to do. And there's always things they want from us. I think the music model will continue to evolve, I think there's ways for us to need to add more and more value into the ecosystem for creators, for creators to monetize it at a higher rate, that isn't necessarily going to be bad for the labels, but will help us sort to achieve some of our goals as well. So, that's kind of the way we think about it moving forward.

Jessica Reif Ehrlich

And then beyond the label, we were trying to get to your margins, when we start deep dive on, we got to like, kind of mid-30s easily. But one of the margin drive versus the upcoming CRB decision, it's like a royalty rate. So, the mechanical royalty rates after the photo records three, should have margin implications to you. What can you say about timing around that decision and potential range of outcomes?

Paul Vogel

Yes, I don't actually have an update on timing for that. We're still – we're little bit holding time right now waiting for some decisions to come down and see what the next steps are in the rolling process there. I think we're accruing at a rate that we think is reasonably conservative based on what their prior decisions have been. So it feels like could or couldn't really come out even worse for us. It's possible on that's not our expectation. So, we think if it comes out the same, or better, that would be outside for us. And so we're waiting to see, we've obviously kind of made our case for where we think the ratio going. But at this point, I don't have a time when that's going to resolve.

Jessica Reif Ehrlich

Okay. And then switching gears earlier this year, you launched the core thing to select premium users. Can you talk a bit how the products been received and when do you expect to have a brought up that [ph]?

Paul Vogel

Yes, so the products been received really, really well so if you take a little bit of a step back,

we have call plus or minus 100 million Spotify users to access Spotify in the car. And so we – want to big number it has been growing, it's pretty significant. So we feel really good about that. And so for us, what we're trying to do is create a environment that makes it as easy and seamless as possible for Spotify users through Spotify in the car, whether or not it's through car thing, whether that's through CarPlay or Android Auto or any of these types of ways their ability to access Spotify in the car.

And so where we see is ton of engagement, a ton of people use it but we want to increase the engagement want people to use it more often. So every time they get in the car, not just sometimes and when they're on it have longer sessions. And so how do we do that, it's by creating a better products. And so the Car Thing is a way for us to really understand with our own first party data, how people interact in the car, what works for them, what interfaces were – what product innovations were – we're, we think voice will be a big contributor to accessing the car, it's not super easy to be scrolling, you're looking at a screen to change, playlists or songs or switching from a music to a podcast. But having the ability to say, hey, Spotify playlists, I change it is something we think could be really important.

And so we'll pursue a number of strategies causing being one of them, working with other third party players, whether it's OEMs or the operating systems that connect with your car will continue to use all of them. So we're optimistic that we're going to continue to grow our share of listenership in the car. And the Car Thing in particular is exceptionally well, the demand is just go through the roof, immediately we get a very, very small select amount free. So why don't think free will be the baseline forever. And so when there is a cost associated with a lot to see, how that demand changes and how the usage changes, and so, our goal is necessarily to be a hardware company, that's not really our goal at all, this is really a way to a give access to users, primarily lots of users who have older callers, where they don't have upgraded Bluetooth systems that work really well with the newer phones, but also a way for us to really learn about how people interact with Spotify in the car, so we can get better and smarter and make the experience just a better overall experience for the users.

Jessica Reif Ehrlich

With that experience, like what are the revenue opportunities that come along with that? It's just increased engagement, or is there something else?

Paul Vogel

Yes, it was an engagement side, right? We know, the more use Spotify, the more your engagement goes up, the more the higher retention, the lower your chart, we know that the more devices you use Spotify on. So if you go from using one device to multiple devices, we see higher engagement, we see better retention, we see lower chart since anywhere we can get a better use case for you as a consumer, that's what really is helpful for us. And obviously, in a lot of markets, the U.S. in particular, a lot of audio listening occurs in a car. And so having a presence that we think is meaningful and seamless is obviously key to making sure we have any major metrics that we want to have.

Jessica Reif Ehrlich

And then Paul, you just mentioned that OEMs we follow Sirius XM as well. And it takes a long time. There's a long runway, I mean, so if you're, is it possible that you can work with the OEMs to go right to the dashboard? If yes, how many years of away is that?

Paul Vogel

Well, we have some arrays, we have Tesla, we have BMW, we have a few others, as well. I think that will be part of the strategy but your point that is taking a long lead time. So we think – as I said earlier, I think we will work with any opportunity I can to make the experience better for you in the car. So if the OEMs will work on that. But again, there's a decent amount of lead time with that, will work with the operating systems and making sure that we're seamless, whether again, it's CarPlay, or Android Auto and now we've got, Car Thing as well. And so for us, it's no matter who you are, no matter how well you want to access your music in the car, making it as simple and easy and seamless as possible, is what we'll do in the OEM is part of the strategy.

We'll see how big it is, I think, right now, obviously, between the direct Bluetooth or cable into your – using, whatever platforms or hours of Car Things is more prevalent, but we think they're all opportunity for us.

Jessica Reif Ehrlich

Right. So let's move on to capital allocation. You recently and I have to say surprisingly, that's the share purchase authorization. Can you give us some color on your capital allocation priorities going forward? And then someone also asked about same question. So, what the rationale behind the $1 billion?

Paul Vogel

Yes, I think it was, it was a couple things. One is we have a pretty strong balance sheet right now with over 3.5 billion of cash on the balance sheet. And so for us, it's always about what's the right use of capital. And the number one thing for us always is going to be investment are we investing enough in the business, and we will never do anything that will preclude us from investing as aggressively as we want to. So that's the number one right here that always happen. We felt like we have enough cash on the balance sheet and currency to invest aggressively and put up in engineering, on innovation and to be able to look at any type of acquisition we want to have, and have the ability to do that, if that were to come to fruition.

So that's sort of number one. And then we're looking at and saying, well we have cash, a lot of cash on the balance sheet, but it's getting no return, if we have enough to spend isn't always the most efficient. And quite frankly, we saw at the time, what we thought was the stock price that was, undervalued and we thought it'd be a good return, given the fact that we had, again, [indiscernible] on the balance sheet, and we didn't think would in any way impact our ability to continue investing grow in the ways that we wanted. So that was the rationale behind that either we did want me for a couple of years ago, it we ended up purchasing a little over half, like 500 million or so at a pretty, what turned out to be a pretty compelling price in the 130s or so average price range.

So we did do it once before, this is not the first time we've done it. And that turned out to be a pretty good investment. And so for us, it was just sort of similar type of logic.

Jessica Reif Ehrlich

And then just to kind of finish up with the capitals, return on capital allocation, let's talk about investing do, are there any gaps, like you obviously have built up your advertising technology tools. Is there any other area or any other gaps, we should be thinking about, thinking of M&A on a global basis?

Paul Vogel

Yes, I don't think – gap I think there's always there's, for us it's always about innovation, it's always about the product, it's always about spending as much as we can efficiently on growing particularly on the R&D side. So you'll continue to see us really aggressively hire on the R&D side, on the engineering side can make sure we're making product improvements or product innovation, whether that's improvements to our current products on the music or podcasting side, or adding new features, functionality or new products. And we're going to continue to invest aggressively there. We've talked about this in the past. But already, when you think about the overall income statement, you think about where we'll get leverage over time.

We believe obviously, we will get some leverage on the G&A side, we'll get leverage on the sales and marketing over time. I think we will continue to invest aggressively R&D side for a period of time, if that's the one area where probably won't see as much leverage as revenue growth, because we're going to continue to lead with investment and lead with that, as a driver of growth for us. I know the M&A side will continue to be opportunistic on where places we feel we could add value. And so megaphones, a great example of a business that we knew we wanted to add inventory into Spotify, we thought we'd be able to monetize it, we thought we had a product portfolio that would really lend itself well. And megaphone made sense there. We've obviously done it on the podcasting side as well on the content side to invest there. So I think we're going to continue to be opportunistic on ways we can grow the business and whether that's content, whether that's R&D, whether it's ad tech, you can imagine what we will be looking at everything.

Jessica Reif Ehrlich

Okay, so one last one on Spotify, and not just you but other people as well have been pretty outspoken about Apple's anti competitive behavior and unfair App Store practices. You finds it playing against them in the EU. And there's been recent news out of South Korea, Japan, and even Los Angeles last week with the EPA case. What does all this mean for Spotify?

Paul Vogel

Yes, look for us I'm not going to say too much about this other than what we said in the past, which is we're just looking for a level playing field. We're looking for Spotify to be able to compete in equal and fair environment as other apps, particularly apps that are owned by the gatekeepers, like Apple for instance, are definitely looking forward. So I think for us, it's great that governments around the world are taking a more active approach and looking at this more closely. And so we think that's obviously encouraging. We'll wait to see how everything plays out. There's obviously a long way to go. But for us, again, we're just looking for a level playing field. We've put up a website to talking about the things that we think should be changed.

Time to play for hours, that is the website, if you want to go in, you can take a look and see where we sort of stand on the different issues here. But like I said, we're just looking for a level playing field. And I think the fact that is more attention and scrutiny is obviously a good thing for us.

Jessica Reif Ehrlich

That's great. So Paul, I can thank you very much for joining us today and we'll be back at 5:05, Lachlan Murdoch at Fox. Anytime again, thank you, Paul for joining.

Paul Vogel

Great thanks so much for your time

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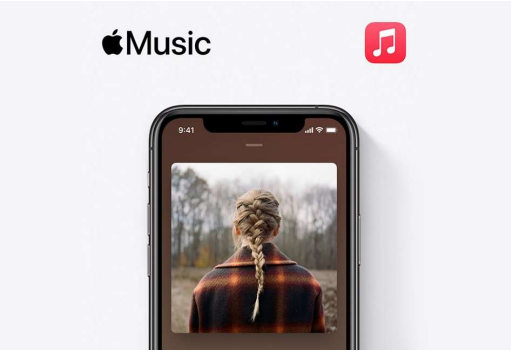

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NEWS

Which Cars Have Amazon Alexa Integration?

By Fred Meier

December 27, 2020

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Integration of Amazon Alexa into vehicle dashboards is growing but still lags Apple CarPlay and Google's Android Auto in acceptance by automakers.

Related: GM Cars to Get Amazon Alexa Connectivity (and Possibly Samuel L. Jackson's Voice)

Automakers know people want their cars to be a seamless extension of their digital lives. In just a few years, integration of smartphone-based Apple and Android capability into dashboard media systems has become nearly universal, but getting Alexa Auto onboard has gone slower.

Not that automakers haven't embraced Alexa home devices. Almost all now have Alexa apps — Amazon calls them "skills" — that can perform the same remote functions as their Apple and Android smartphone apps. These can include locking and unlocking, remote start and more, depending on the maker and the particular car. You can find these apps under Connected Car at Amazon's Alexa Skills.

But that's not what we mean here. Many folks who use Alexa voice-activated devices at home for everything from infotainment to ordering dog food to controlling smart-home lights and thermostats might like to do those same things from their connected car — as if it were just another room in that smart home. They might even like to use Alexa voice control for the car's features, but do automakers want to give up that much control of their in-car experience? It is Amazon, after all. BMW, for example, announced in 2017 that it would put Alexa Auto capability in all BMW and Mini vehicles starting with 2018 production but also has developed its *own* voice-controlled digital assistant system that can control many car features.

It's Complicated

Even for automakers that have embraced Alexa Auto, operation and capabilities vary. It's not the *relatively* uniform experience from brand to brand and car to car as CarPlay and Android Auto. Some, such as BMW and GM vehicles have Alexa built in — embedded into the dashboard multimedia system and using the in-car screen, microphones and speakers. Such full integration requires an Alexa-capable system and also requires a connectivity subscription for the car, which can cost $15 a month or more. Others, such as Ford and Toyota products, have integrated Alexa into the car's multimedia system as an app that requires a connected smartphone (and data). Also note that Alexa capability with some auto brands and individual models might require a media system or package upgrade, and Alexa may not be supported on all trim levels.

If your vehicle is not Alexa-capable, there is a workaround — if you don't mind a separate device and wires in the car. One is Amazon's own phone-sized Echo Auto (normally about

$50 but on sale as this is written for $19.95). It uses its own microphone array for voice, an Alexa app on your smartphone and an auxiliary input or Bluetooth connection to the car's audio system. You can see it, and some other aftermarket devices, here.

Vehicle List

Here are the vehicles that Amazon or automakers list as offering Alexa in-car integration. (Note: Some earlier model years for some brands require a system update.) Cars.com will update this list as more vehicles are added. Automaker links for more information are included.

Audi vehicles with Alexa

2019 on: E-Tron
2020 on: A6, A7, A8, Q7, Q8
2021 on: Q3, A4, A5

More information from Audi

BMW vehicles with Alexa

2019 on: i3, X1, X2, X3, X4
2020 only: 4 Series, i8
2020 on: 2 Series coupe and convertible

More information from BMW

Buick vehicles cars with Alexa

2018 on: Regal
2020 on: Enclave, Encore GX

More information from Buick

Cadillac vehicles with Alexa

2018 on: ATS, CTS, XTS
2019 on: CT6 (including plug-in), XT4

2020 on: CT4, CT5, XT6
2021 Escalade, Escalade ESV

More information from Cadillac

Chevrolet vehicles with Alexa

2019 on: Blazer, Camaro, Colorado, Equinox, Impala, Malibu, Silverado 1500, Volt
2020 on: Corvette, Traverse
2021 on: Suburban, Tahoe, Trailblazer

More information from Chevrolet

FCA vehicles with Alexa

2021 on: Chrysler Pacifica, Pacifica Hybrid, Dodge Durango

More information from FCA

Ford vehicles (requires Ford Plus Alexa app for Google's Android or Apple iOS)

2016 on: C-Max Energi, Edge, Escape, Expedition, Expedition EL, Expedition Max, Explorer, F-150, F-250, F-350, Fiesta, Flex, Focus, Fusion, Mustang, Taurus
2018 on: EcoSport
2019 on: Transit Connect Wagon
2021 on: Bronco Sport, Mustang Mach-E

More information from Ford

GMC vehicles with Alexa

2018 on: Terrain
2019 on: Canyon, Sierra 1500, Sierra 2500, Sierra 3500
2020 on: Acadia
2021 on: Yukon, Yukon XL

More information from GMC

Lexus vehicles (requires Lexus Plus Alexa app for Android or iOS)

2018 on: LC 500, LC 500h, LS 500, NX 300, NX 300h, RC 300, RC 350, RC F
2019 on: ES 250, ES 350, ES 300h, UX 200, UX 250h
2020 on: RX 300, RX 350, RX 350L, RX 450h, RX 450hL

More information from Lexus

Lincoln vehicles (requires Lincoln Plus Alexa app for Android or iOS)

2016 on: MKC, MKS, MKT, MKX, MKZ, Navigator, Lincoln Navigator L
2017 on: Continental
2019 on: Aviator, Nautilus
2020 on: Corsair

More information from Lincoln

Mini vehicles with Alexa

Mid-2018 production on: Clubman, Convertible, Countryman, Hardtop, John Cooper Works

More information from Mini

Toyota vehicles (requires Toyota Plus Alexa app for Android or iOS)

2018 on: Camry, Sienna
2019 on: Avalon, C-HR, Corolla Hatchback, RAV4
2020 on: 4Runner, Corolla, Highlander, Prius, Prius Prime, Sequoia, Tacoma, Tundra
2021 on: Mirai, Venza

More information from Toyota

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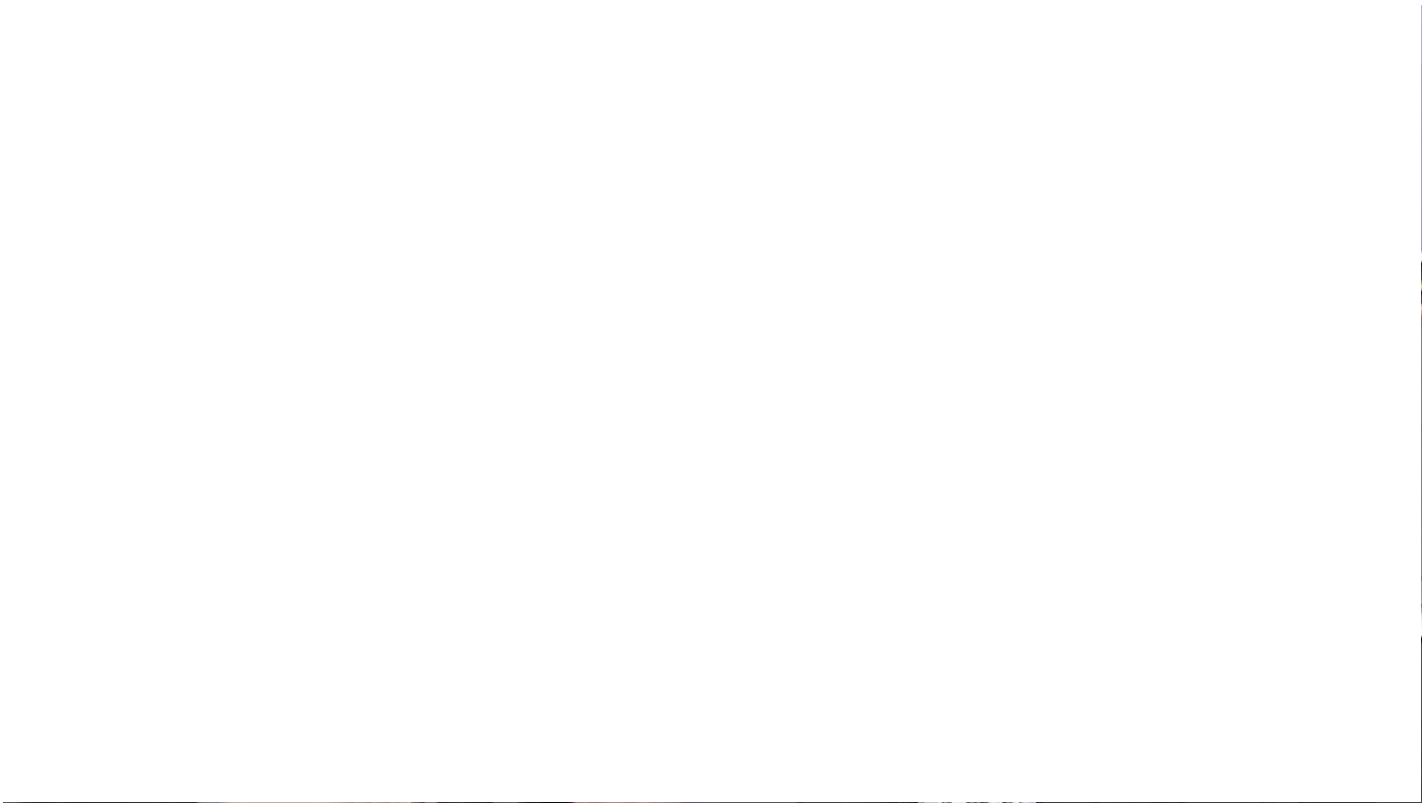

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Introducing Apple Music — All The Ways You Love Music. All in One Place.

apple.com/newsroom/2015/06/08Introducing-Apple-Music-All-The-Ways-You-Love-Music-All-in-One-Place-/

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PRESS RELEASE June 8, 2015

Worldwide Debut June 30

SAN FRANCISCO — June 8, 2015 — Apple® today unveiled Apple Music™, a single, intuitive app that combines the best ways to enjoy music — all in one place. Apple Music is a revolutionary streaming music service, a pioneering worldwide live radio station from Apple broadcasting 24 hours a day and a great new way for music fans to connect with their favorite artists. Apple Music combines the largest and most diverse collection of music on the planet with the expertise of world-class music experts who have programmed playlists for your iPhone®, iPad®, iPod touch®, Mac®, PC, Apple TV® and Android phones.* Apple Music will be available starting on June 30 in over 100 countries.

“We love music, and the new Apple Music service puts an incredible experience at every fan’s fingertips,” said Eddy Cue, Apple’s senior vice president of Internet Software and Services. “All the ways people love enjoying music come together in one app — a revolutionary streaming service, live worldwide radio and an exciting way for fans to connect with artists.”

“Apple Music is really going to move the needle for fans and artists,” said Jimmy Iovine. “Online music has become a complicated mess of apps, services and websites. Apple Music brings the best features together for an experience every music lover will appreciate.”

Apple Music
Apple Music is a revolutionary streaming service and app that puts the entire Apple Music catalog at your fingertips across your favorite devices. Starting with the music you already know — whether from the iTunes Store® or ripped CDs — your music now lives in one place alongside the Apple Music catalog with over 30 million songs. You can stream any song, album or playlist you choose — or better yet, let Apple Music do the work for you.

Curation is the soul of every playlist created on Apple Music. Apple has hired the most talented music experts from around the world, dedicated to creating the perfect playlists based on your preferences, and they become better curators the more you listen. The “For You” section of Apple Music provides a fresh mix of albums, new releases and playlists, which have been personalized just for you.

In addition to human curation, Siri® is also dedicated to helping you enjoy great music and have fun with Apple Music. Ask Siri to, “Play me the best songs from 1994,”“Play the best FKA twigs song,” or “What was the number one song in February 2011?”

Apple Music Radio
Beats 1℠, Apple’s first ever live radio station dedicated entirely to music and music culture, will broadcast live to over 100 countries. Beats 1 is a 24-hour listening experience led by influential DJs Zane Lowe in Los Angeles, Ebro Darden in New York and Julie Adenuga in London. Listeners around the globe will hear the same great programming at the same time. Exciting programs on Beats 1 will offer exclusive interviews, guest hosts and the best of what’s going on in the world of music.

Apple has also redesigned radio with human curation taking the lead. Apple Music Radio gives you stations created by some of the world’s finest radio DJs. The new stations range in genres from indie rock to classical and folk to funk, with each one expertly curated. With membership, you can skip as many songs as you like, so you can change the tune without changing the dial.

Apple Music Connect
Artists and fans now have an incredible way to connect with one another directly in Apple Music with Connect. Through Connect, artists can share lyrics, backstage photos, videos or even release their latest song directly to fans directly from their iPhone. Fans can comment on or like anything an artist has posted, and share it via Messages, Facebook, Twitter and email. And when you comment, the artist can respond directly to you.

Pricing & Availability
Starting on June 30, music fans around the world are invited to a 3-month free membership, after which a $9.99/month subscription fee will apply. There will also be a family plan providing service for up to six family members available for just $14.99/month.

Requires initial sign up. At the end of the trial period, the membership will automatically renew and payment method will be charged on a monthly basis until auto-renewal is turned off in account settings. Family plan requires iCloud® Family Sharing.
See www.apple.com/icloud/family-sharing for more information.
*Apple Music is available on your iPhone, iPad, iPod touch, Mac, and PC starting June 30. Apple Music will be coming to Apple TV and Android phones this fall.

Apple revolutionized personal technology with the introduction of the Macintosh in 1984. Today, Apple leads the world in innovation with iPhone, iPad, the Mac and Apple Watch. Apple's three software platforms — iOS, OS X and watchOS — provide seamless experiences across all Apple devices and empower people with breakthrough services including the App Store, Apple Music, Apple Pay and iCloud. Apple's 100,000 employees are dedicated to making the best products on earth, and to leaving the world better than we found it.

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THE INFINITE DIAL® 2020

The Infinite Dial 2020

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Study Overview

- The Infinite Dial is the longest-running survey of digital media consumer behavior in America
- The annual reports in this series have covered a wide range of digital media and topics since 1998
- The Infinite Dial tracks mobile behaviors, internet audio, podcasting, social media, smart speakers and more

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Study Methodology

- In January/February 2020, Edison Research conducted a national telephone survey of 1502 people aged 12 and older, using random digit dialing techniques to both cell phones and landlines
- Survey offered in both English and Spanish
- Data weighted to national 12+ U.S. population figures

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Media & Technology

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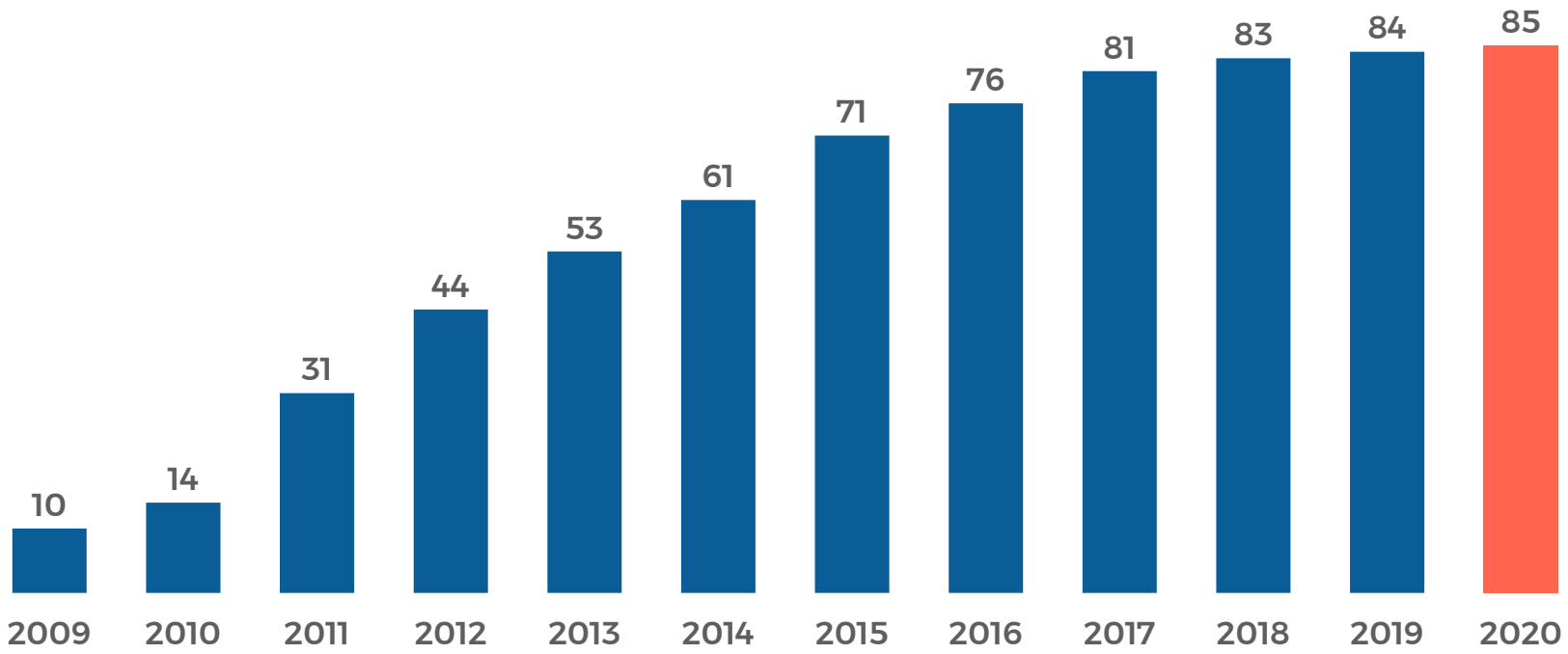
Smartphone Ownership

TOTAL U.S. POPULATION 12+

% OWNING A SMARTPHONE

Estimated
240 Million



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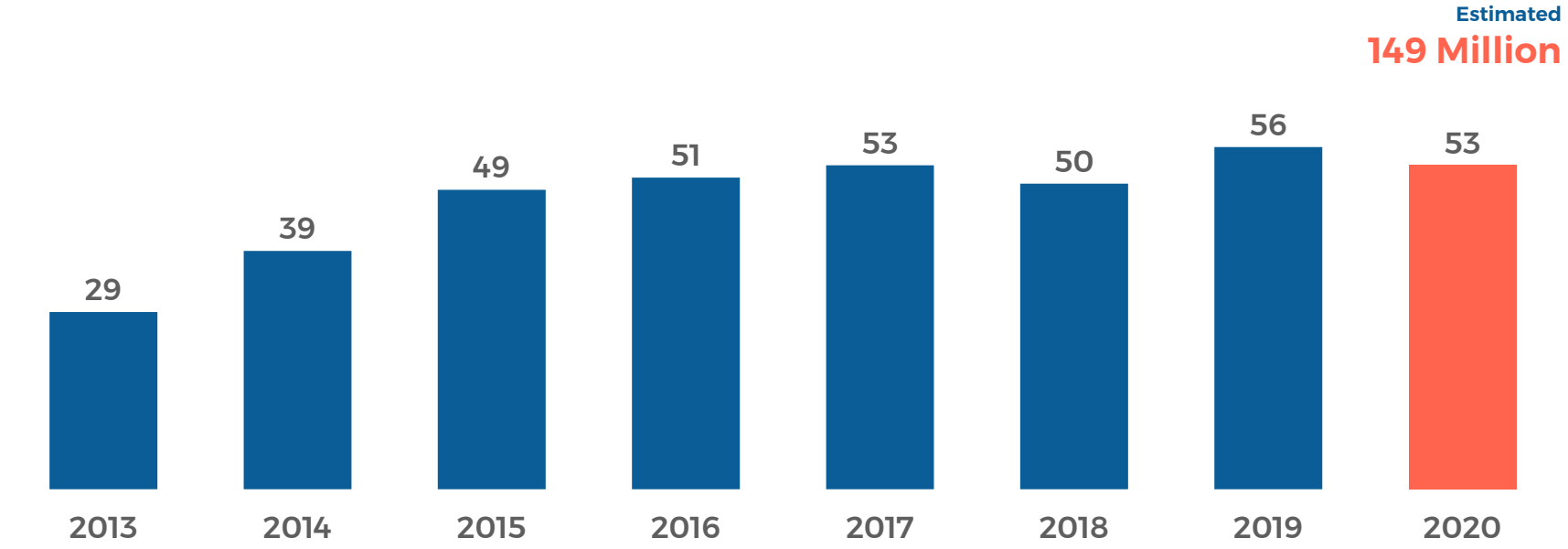
Tablet Ownership

TOTAL U.S. POPULATION 12+

% OWNING A TABLET



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Smartwatch Ownership

TOTAL U.S. POPULATION 12+

% OWNING A SMARTWATCH

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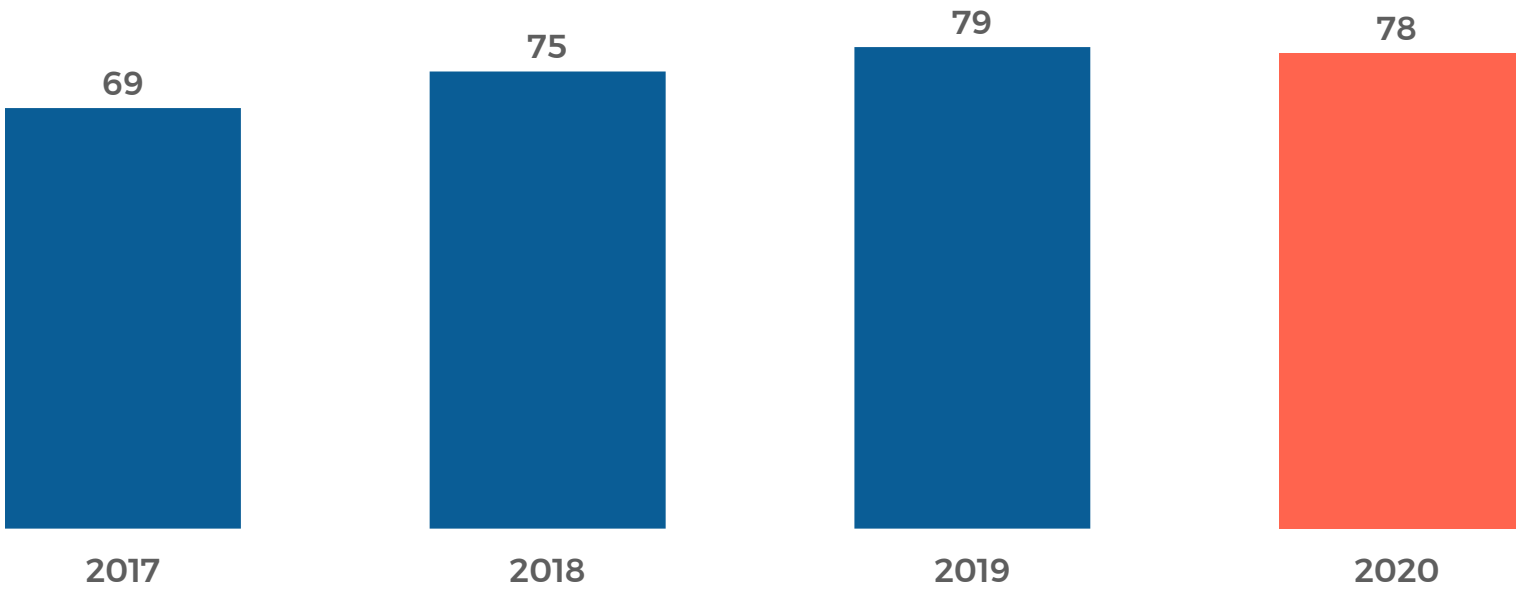
Smart Speaker Awareness

TOTAL U.S. POPULATION 12+

% AWARE OF ANY SMART SPEAKER BRAND



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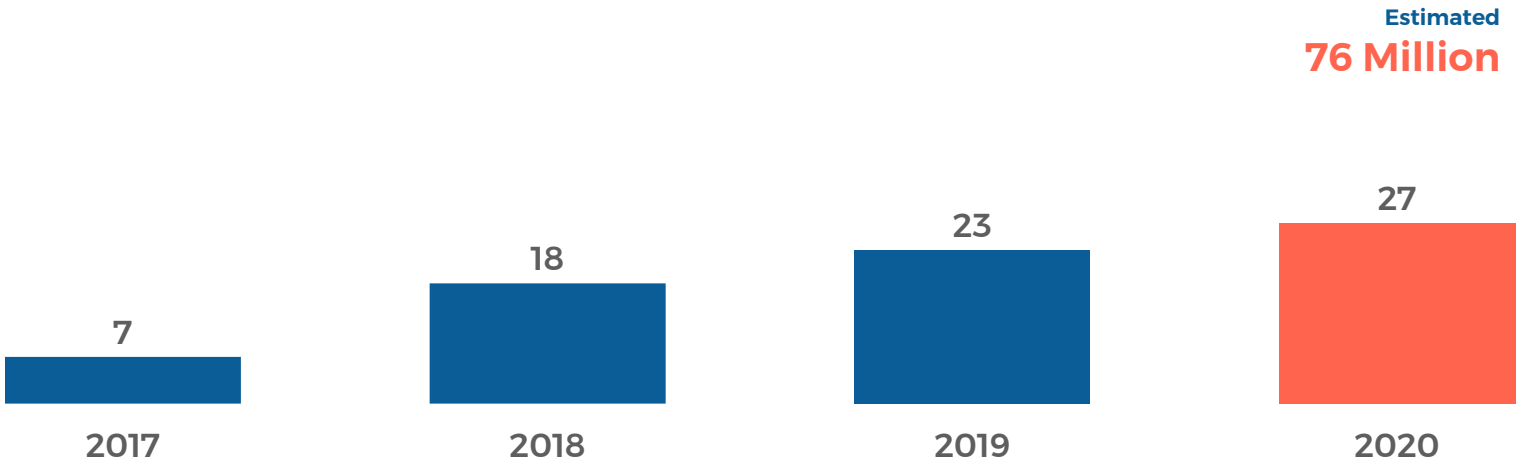
Smart Speaker Ownership

TOTAL U.S. POPULATION 12+

% OWNING A SMART SPEAKER



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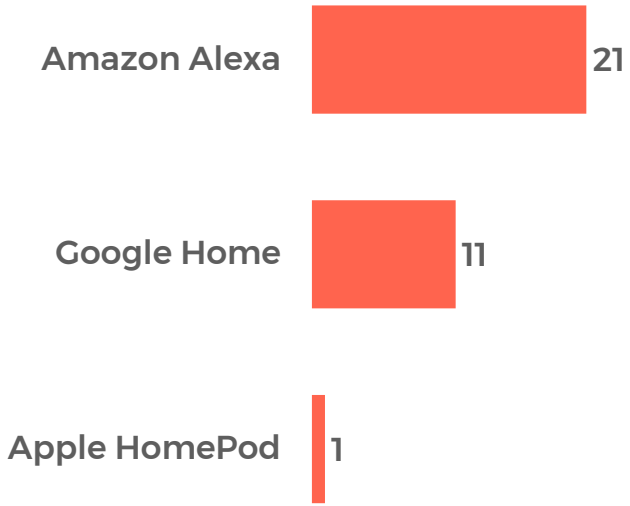
Smart Speaker Ownership

TOTAL U.S. POPULATION 12+

% OWNING SMART SPEAKER



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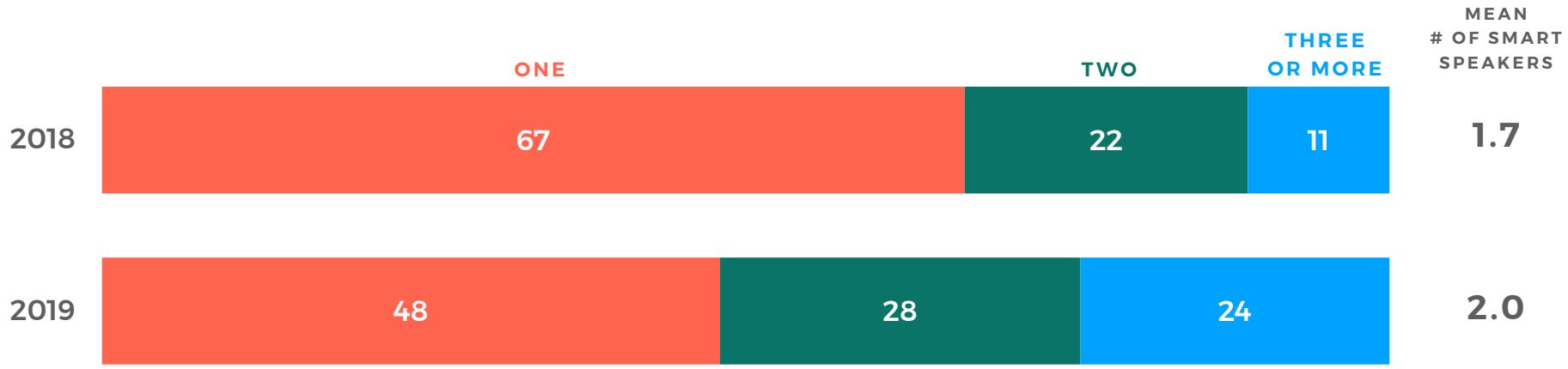
Number of Smart Speakers in Household

BASE: U.S. AGE 12+ SMART SPEAKER OWNERS



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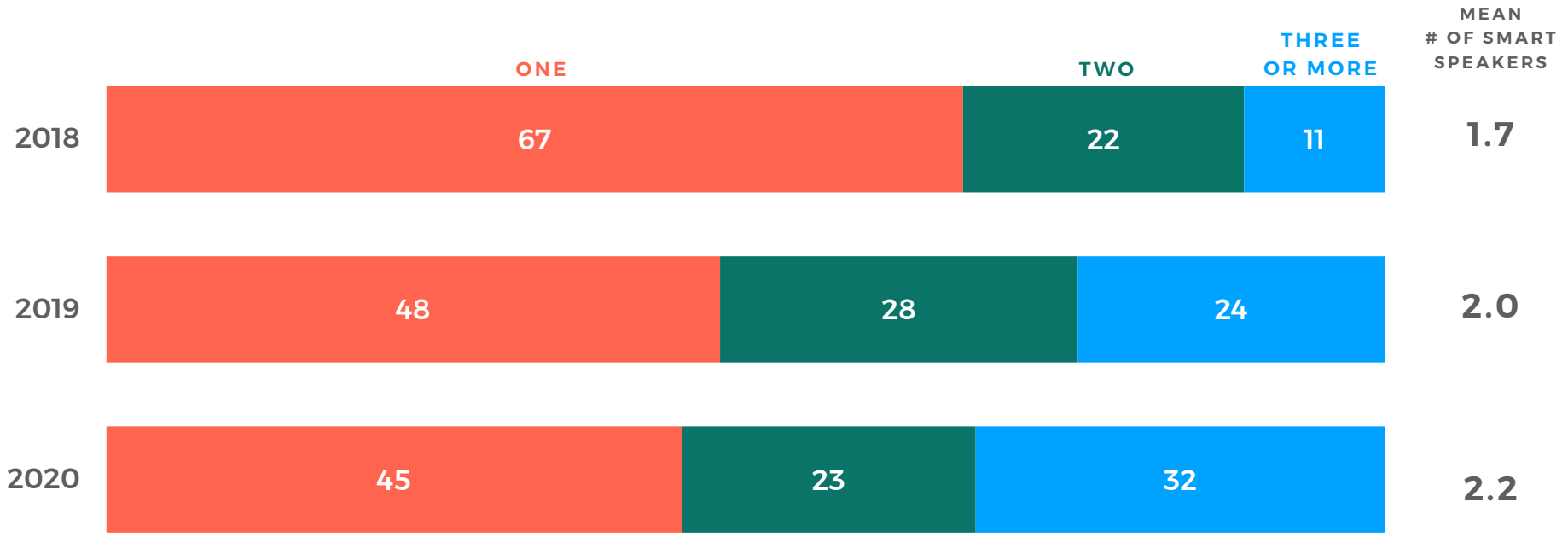
Number of Smart Speakers in Household

BASE: U.S. AGE 12+ SMART SPEAKER OWNERS



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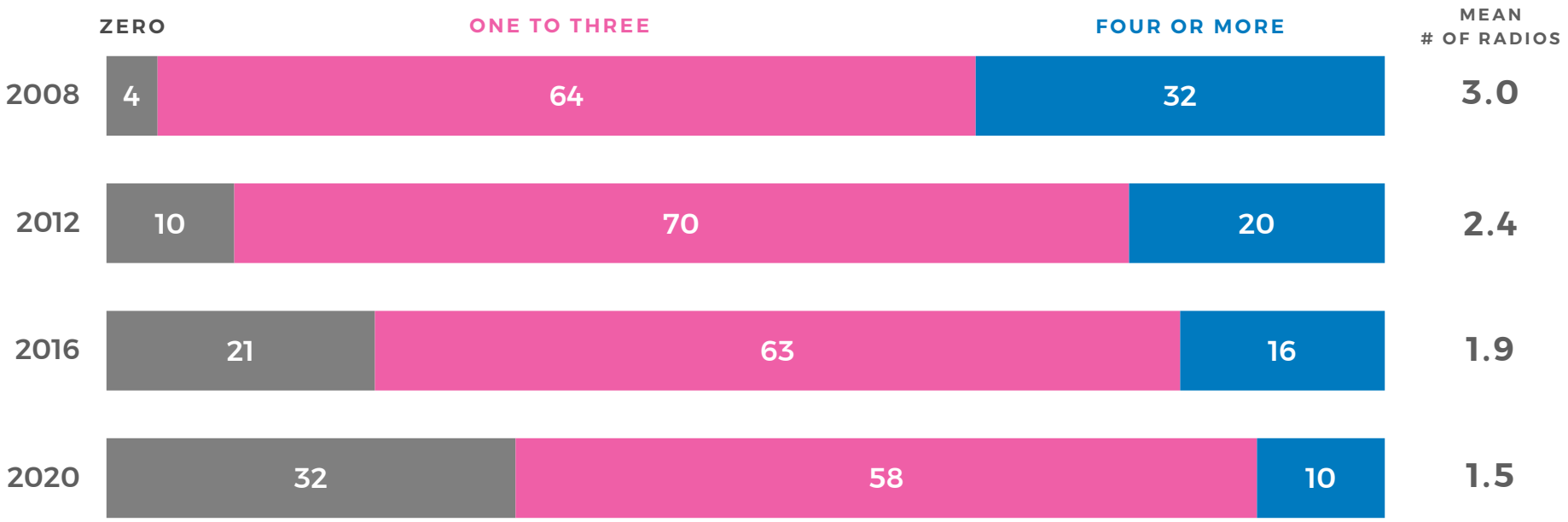
Number of Radios in Household

TOTAL U.S. POPULATION 12+



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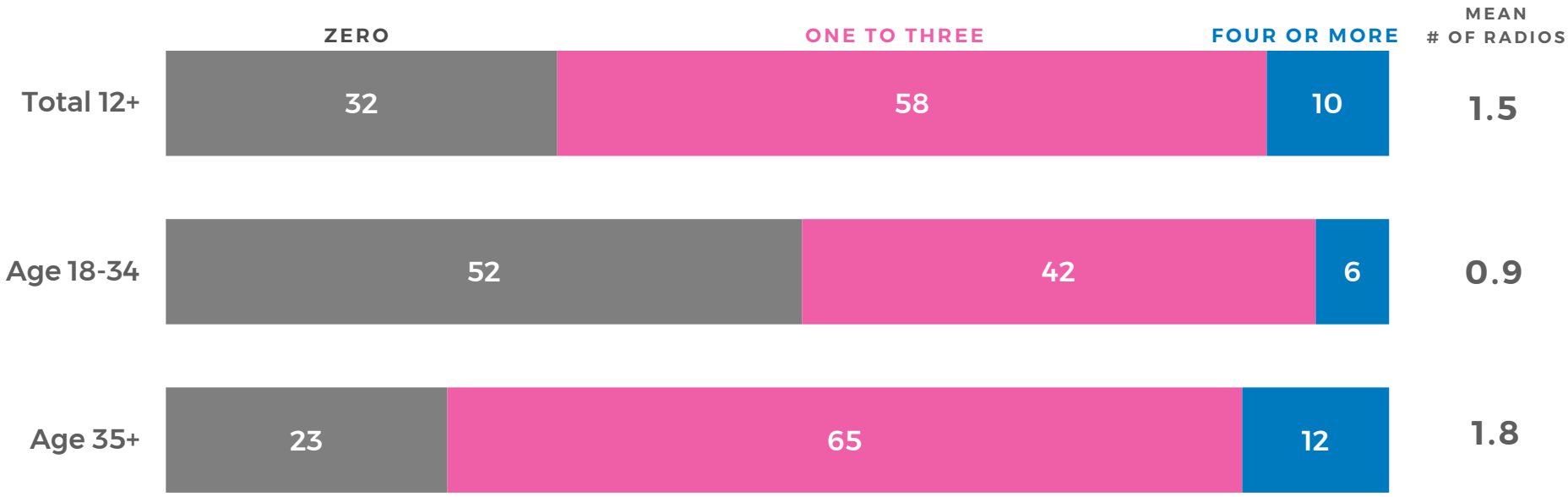
Number of Radios in Household

TOTAL U.S. POPULATION



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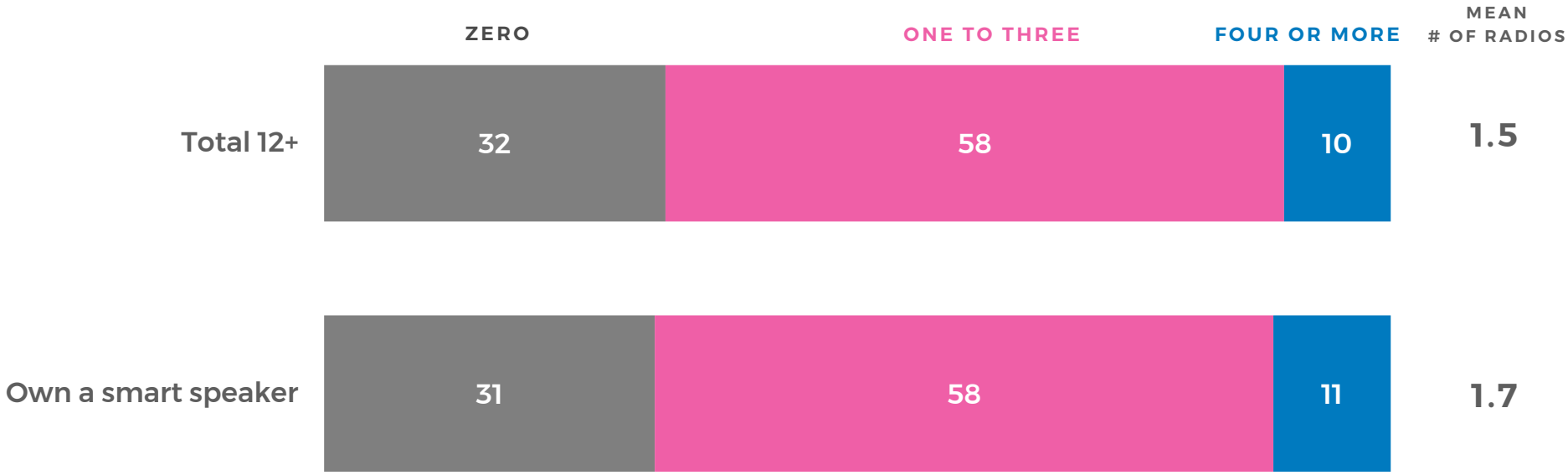
Number of Radios in Household

TOTAL U.S. POPULATION



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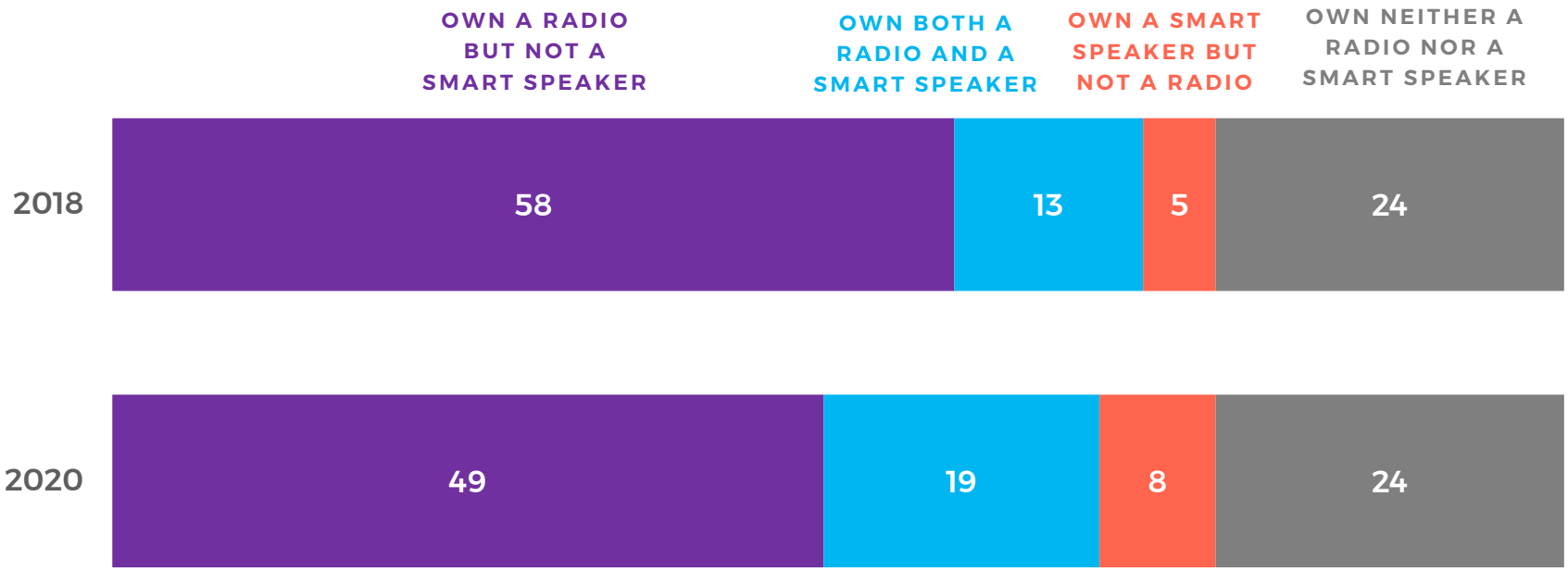
Radio Ownership and Smart Speaker Ownership

TOTAL U.S. POPULATION



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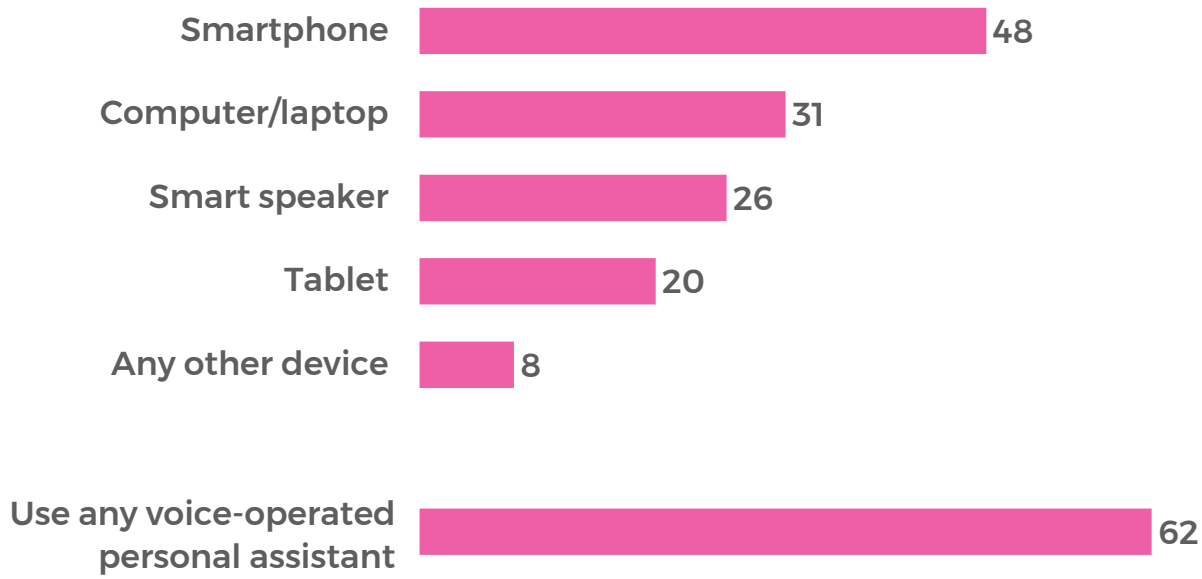
Voice-Operated Personal Assistant Usage

TOTAL U.S. POPULATION 12+

% USING VOICE-OPERATED PERSONAL ASSISTANTS ON DEVICE



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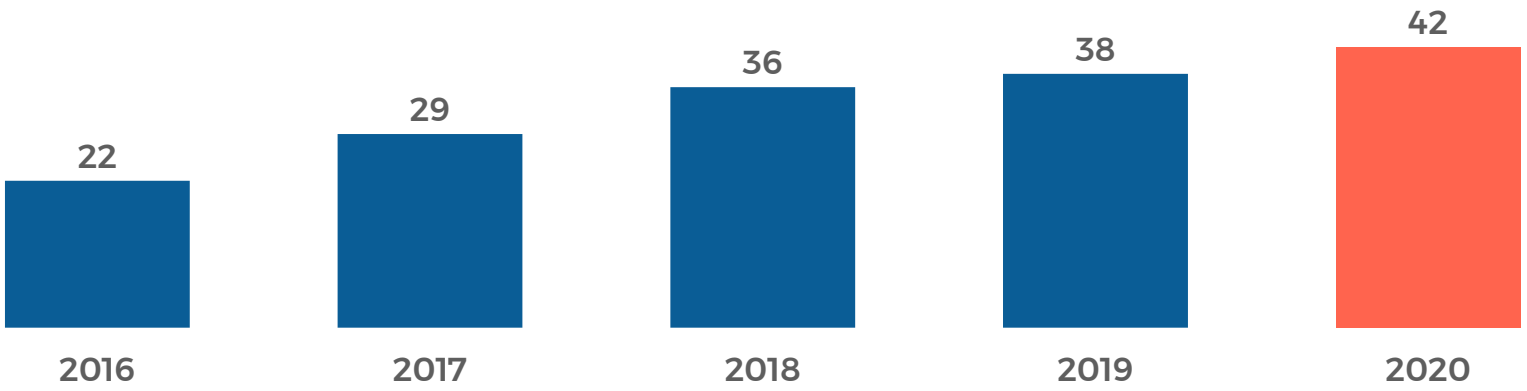
Amazon Prime Subscription

TOTAL U.S. POPULATION 12+

% SUBSCRIBE TO AMAZON PRIME

Estimated
118 Million



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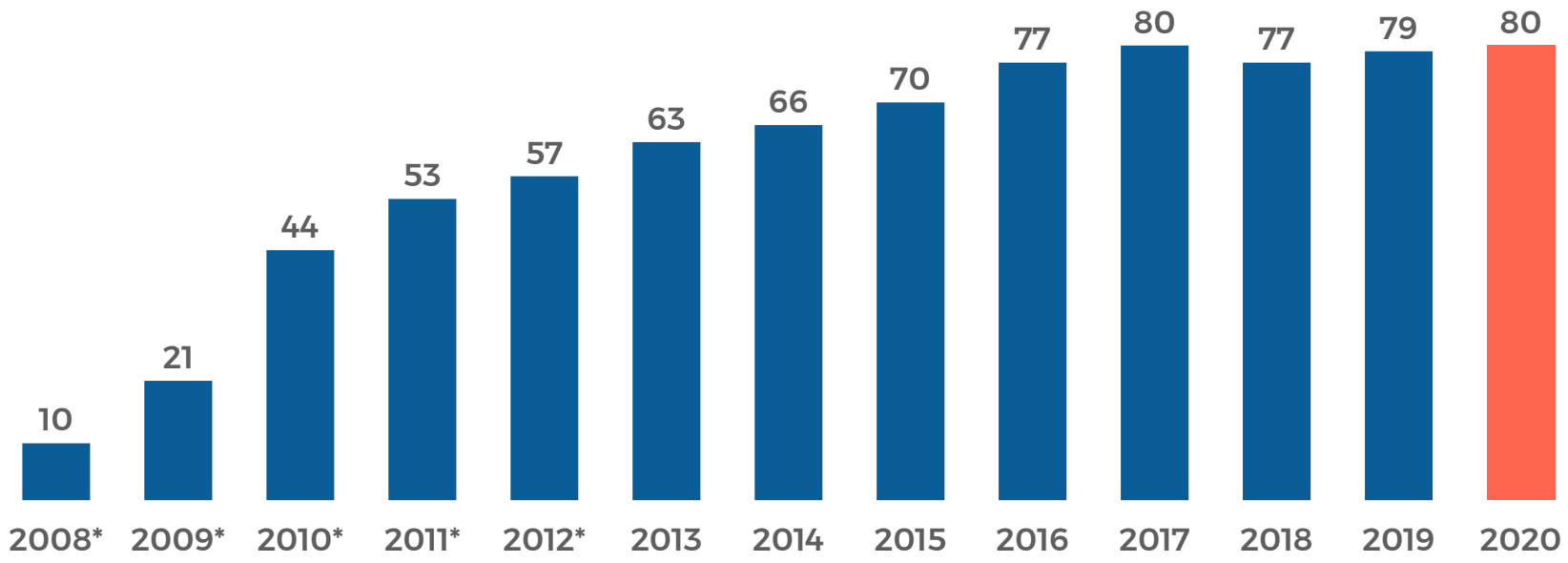
Social Media Usage

TOTAL U.S. POPULATION 12+

% USING SOCIAL MEDIA

Estimated
226 Million



*2008-2012: EVER USE FACEBOOK, TWITTER, OR LINKEDIN

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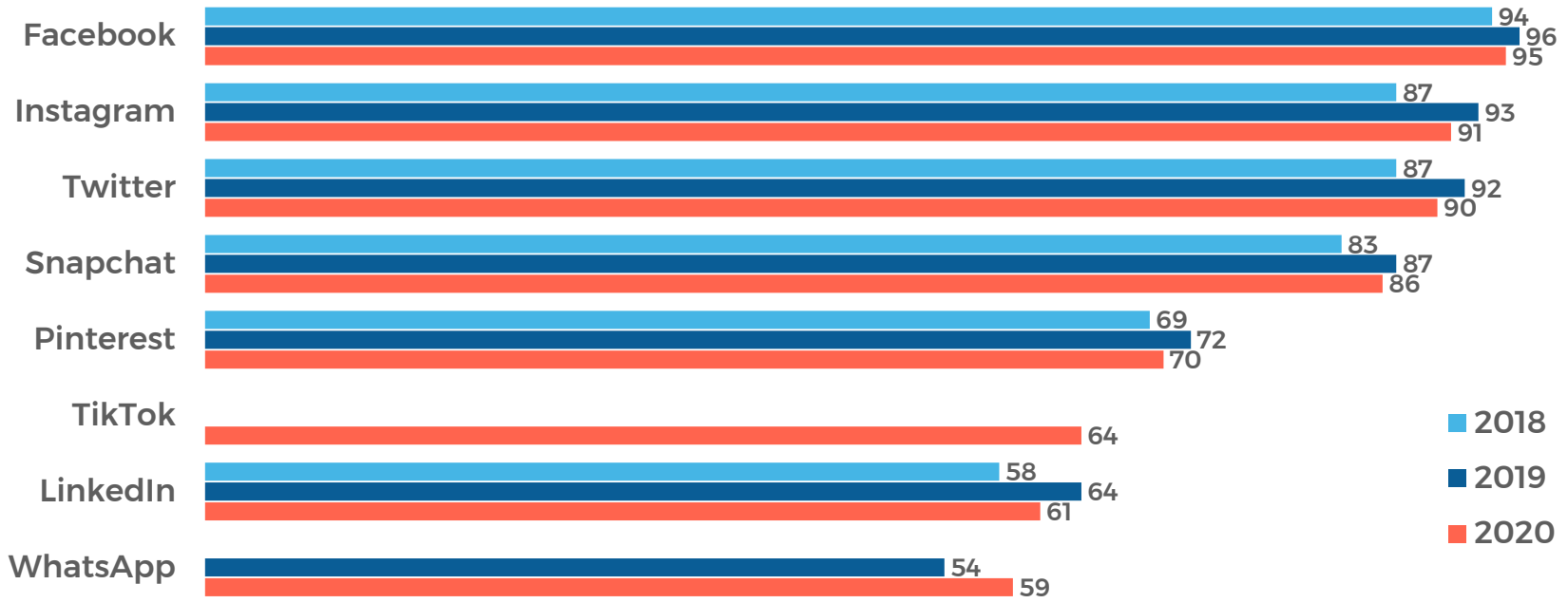
Social Media Brand Awareness

TOTAL U.S. POPULATION 12+

% AWARE OF SOCIAL MEDIA BRAND



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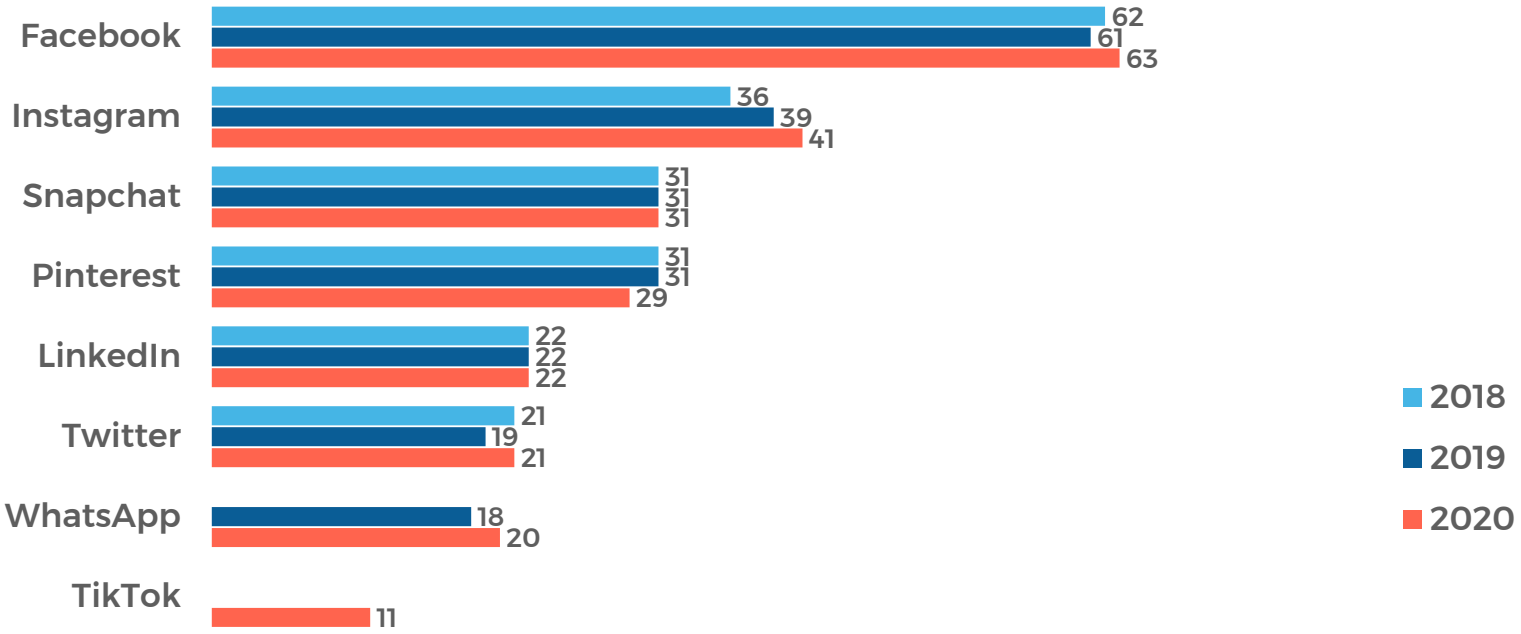
Social Media Brand Usage

TOTAL U.S. POPULATION 12+

% USING SOCIAL MEDIA BRAND



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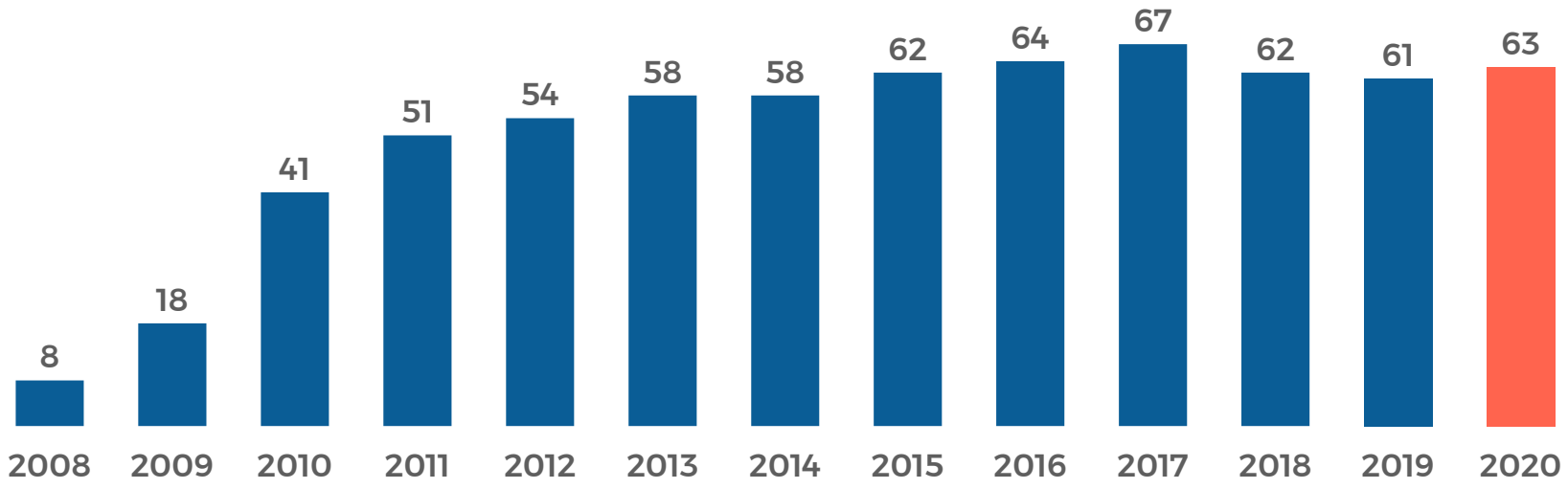
Facebook Usage

TOTAL U.S. POPULATION 12+

% USING FACEBOOK

Estimated
178 Million



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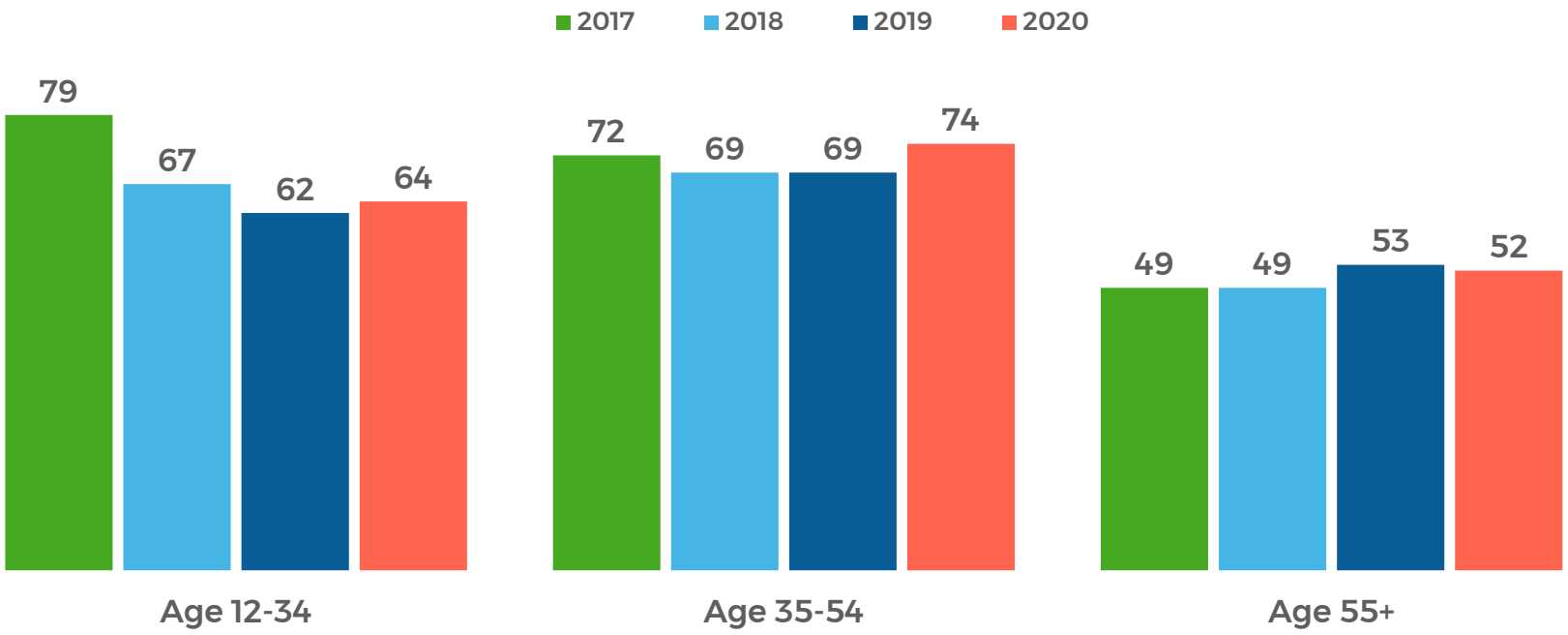
Facebook Usage

U.S. POPULATION

% USING FACEBOOK



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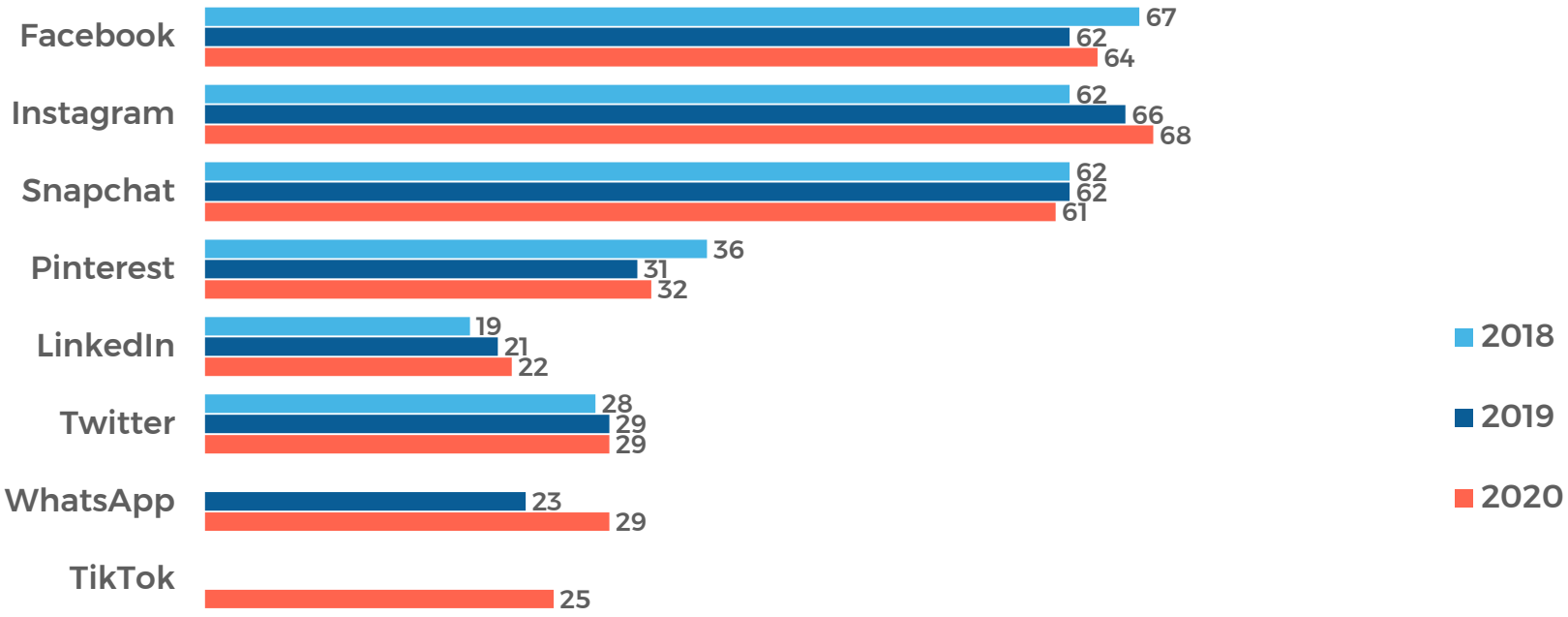
Social Media Brand Usage (Age 12-34)

U.S. POPULATION

% USING SOCIAL MEDIA BRAND



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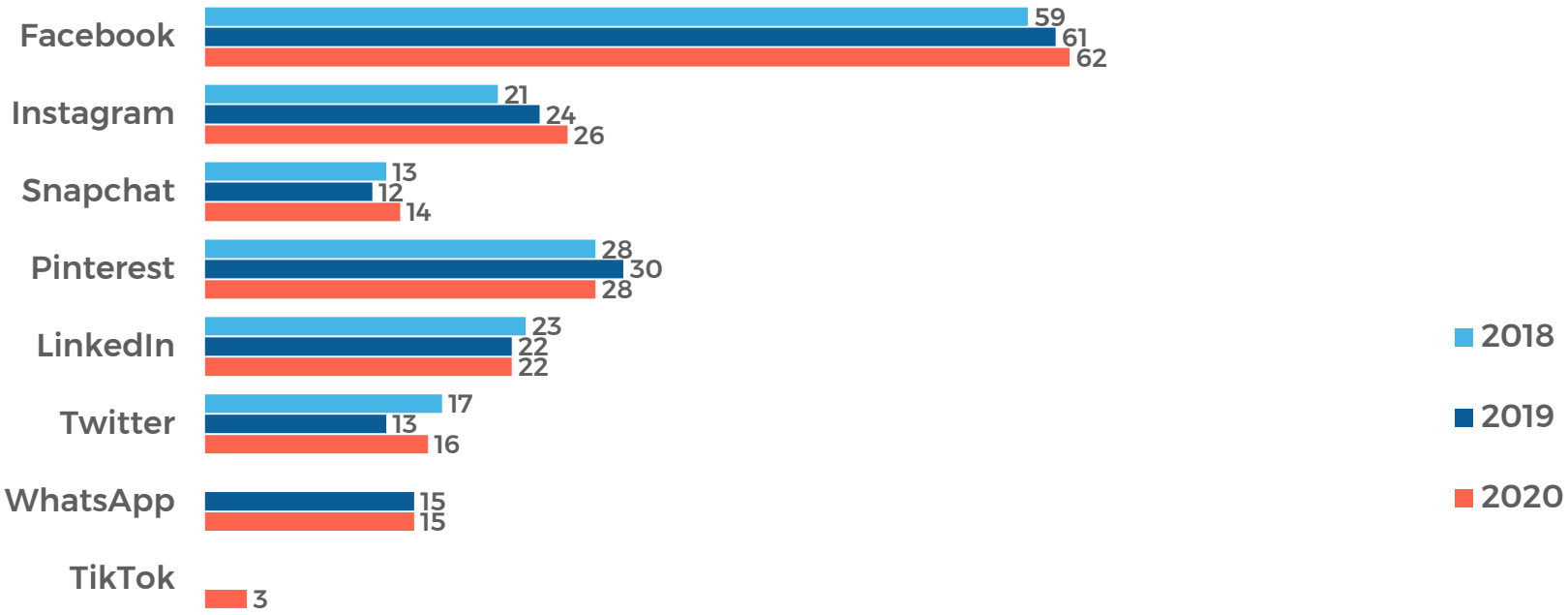
Social Media Brand Usage (Age 35 and older)

U.S. POPULATION

% USING SOCIAL MEDIA BRAND



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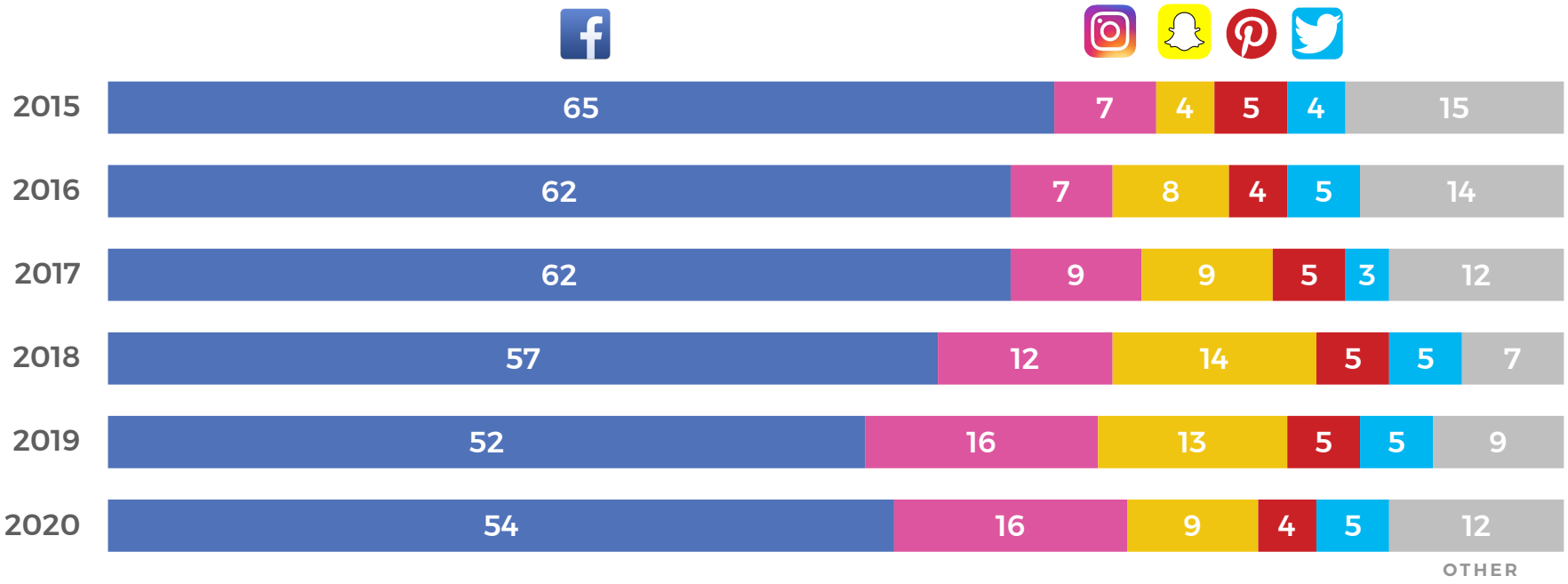
Social Media Brand Used Most Often

BASE: U.S. AGE 12+ SOCIAL MEDIA USERS



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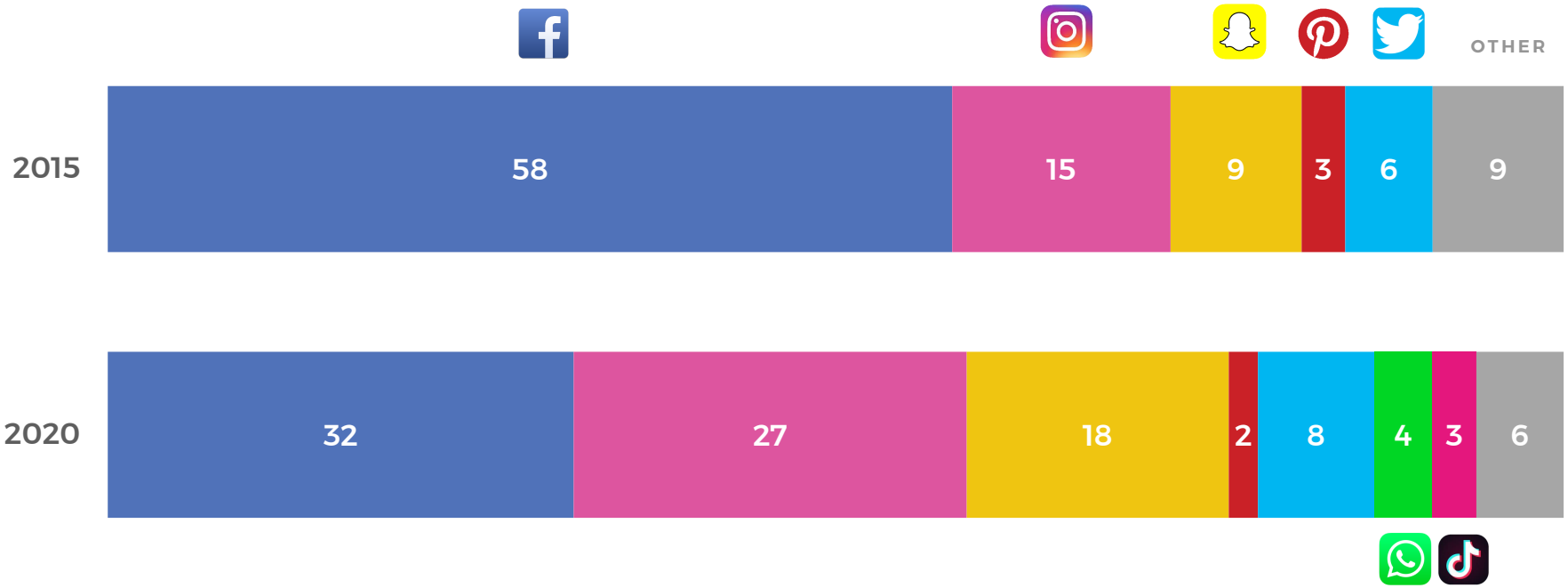
Social Media Brand Used Most Often (Age 12-34)

BASE: U.S. SOCIAL MEDIA USERS



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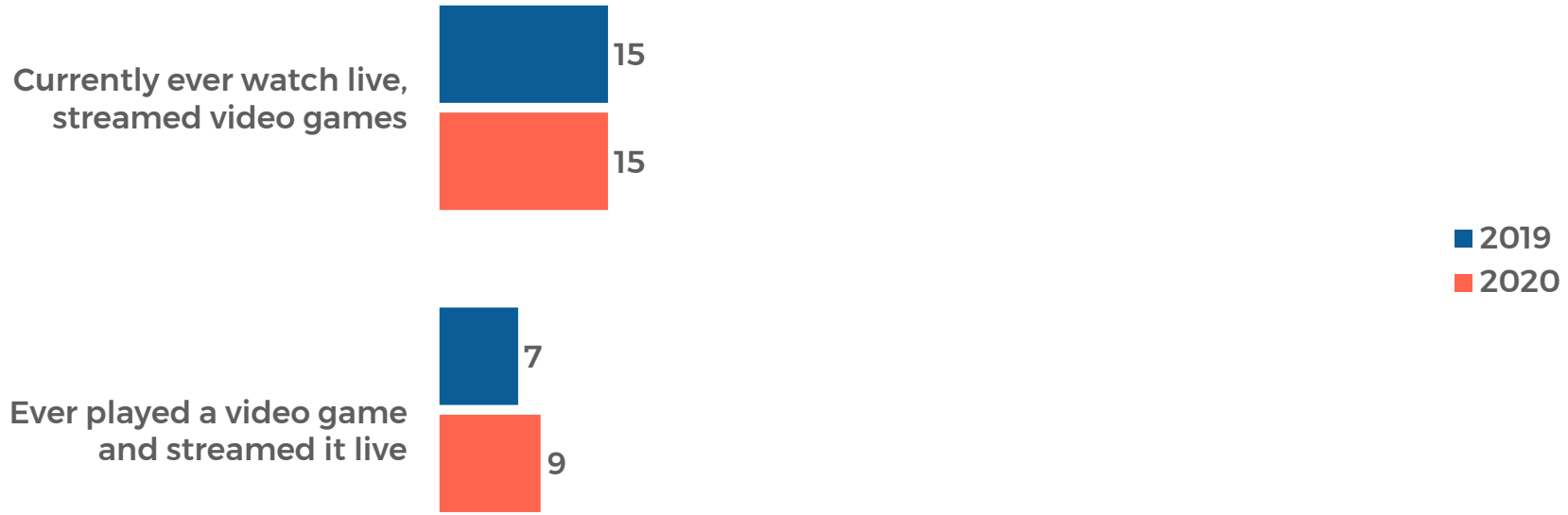
Live Streamed Video Games

TOTAL U.S. POPULATION 12+

% SAYING YES



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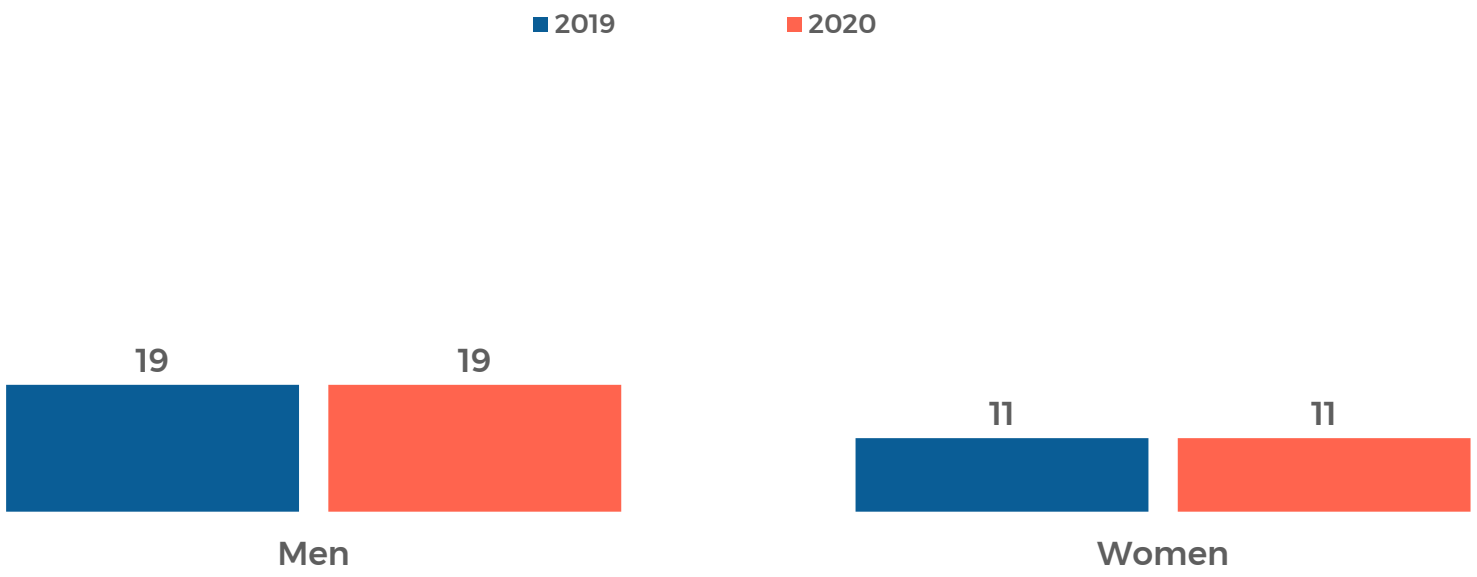
Currently Ever Watch Live Streamed Video Games

TOTAL U.S. POPULATION 12+

% SAYING YES



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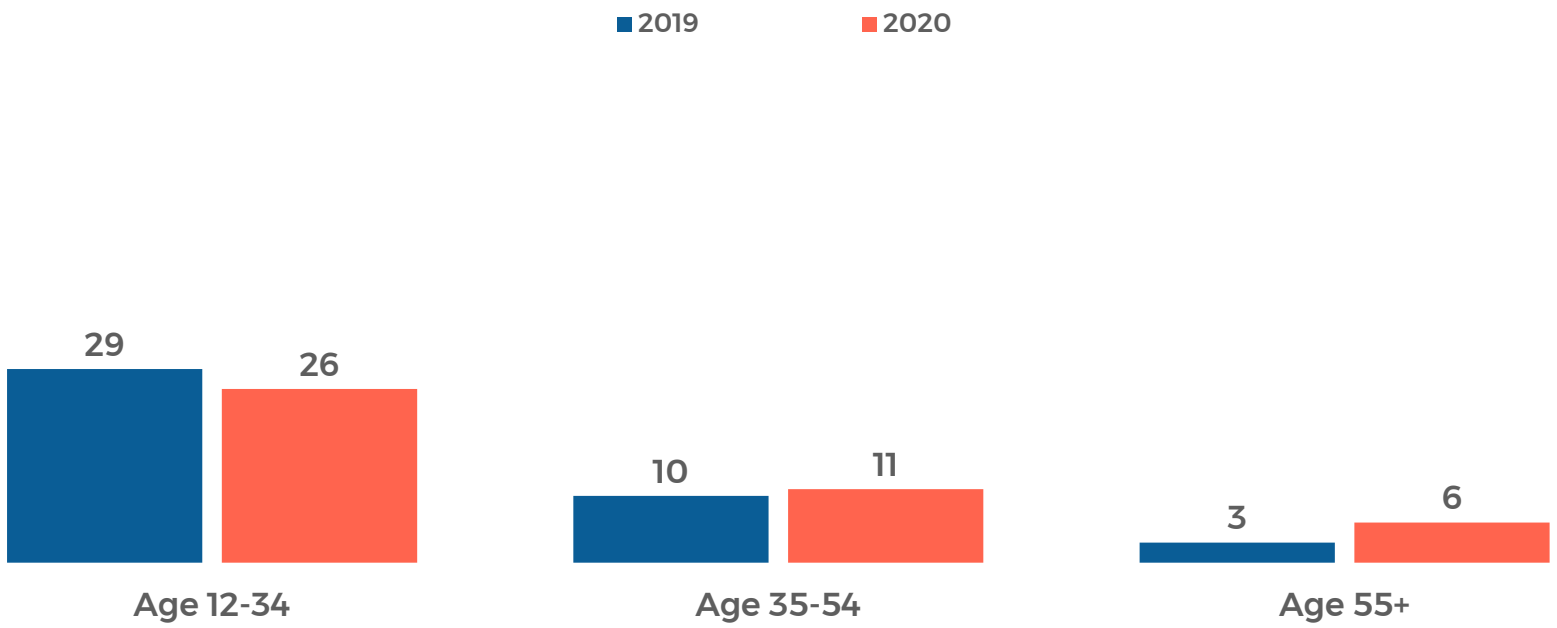

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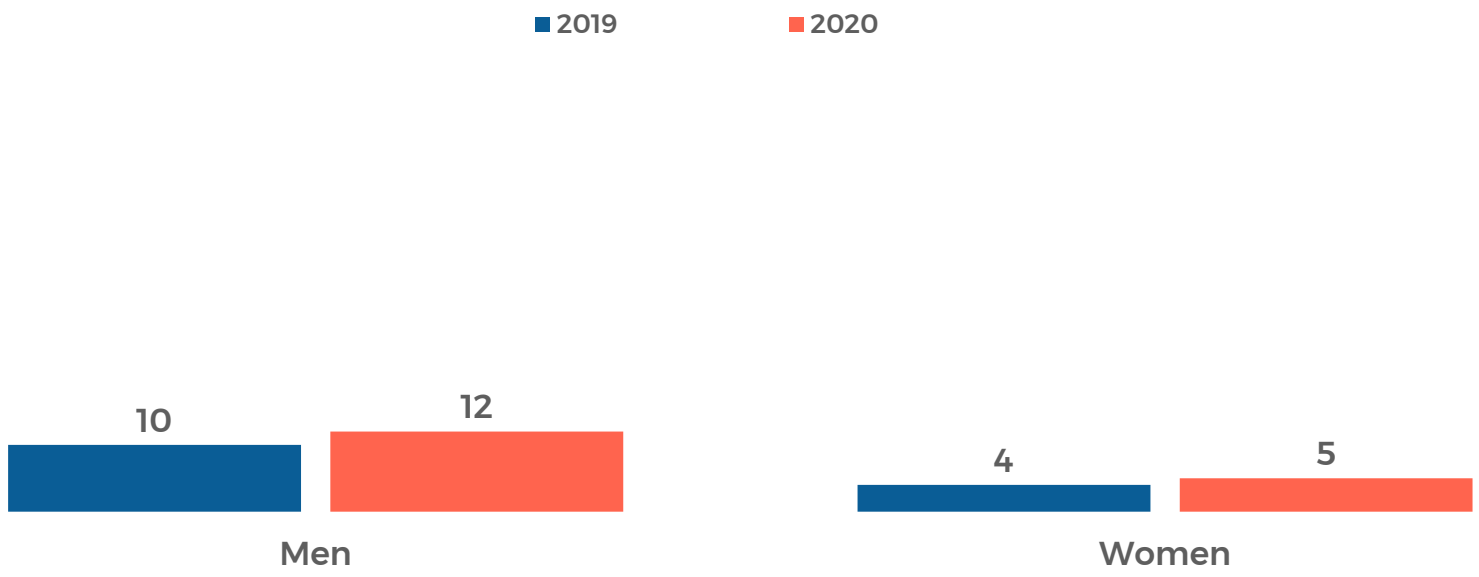
Ever Played a Video Game and Streamed It Live

TOTAL U.S. POPULATION 12+

% SAYING YES



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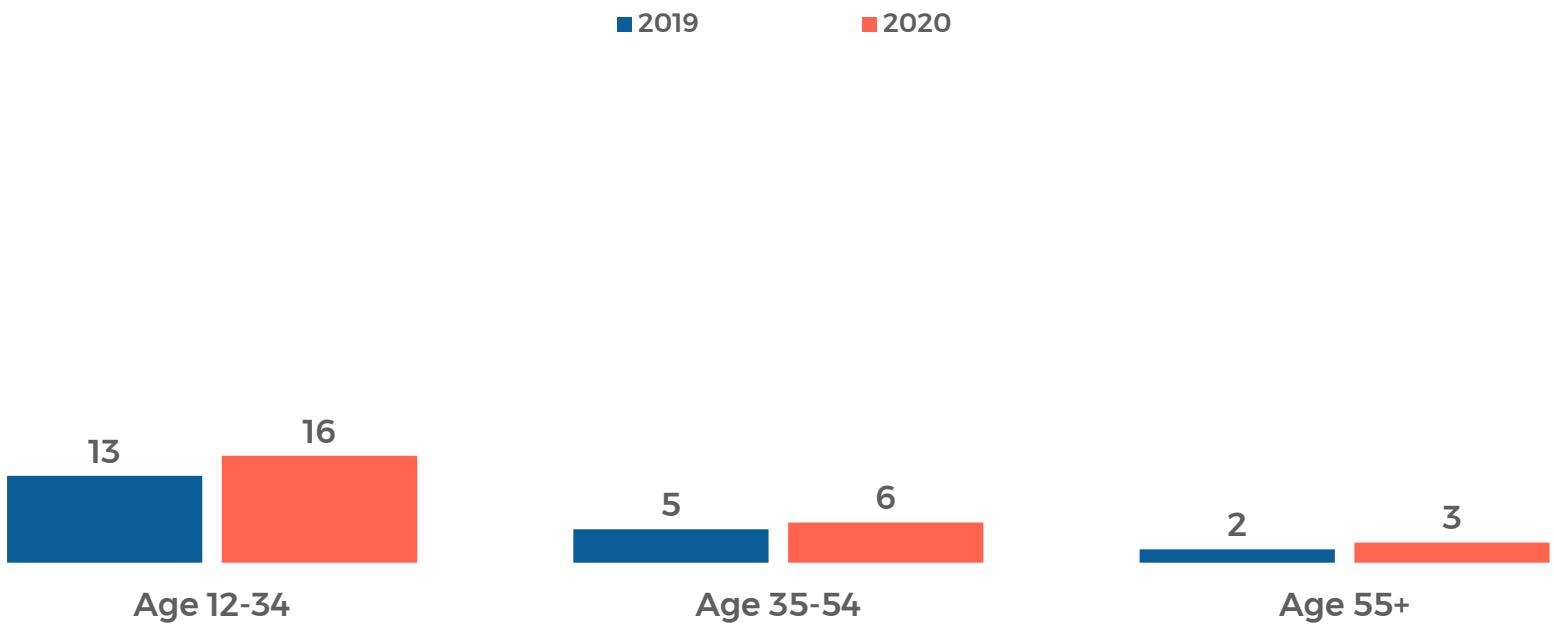

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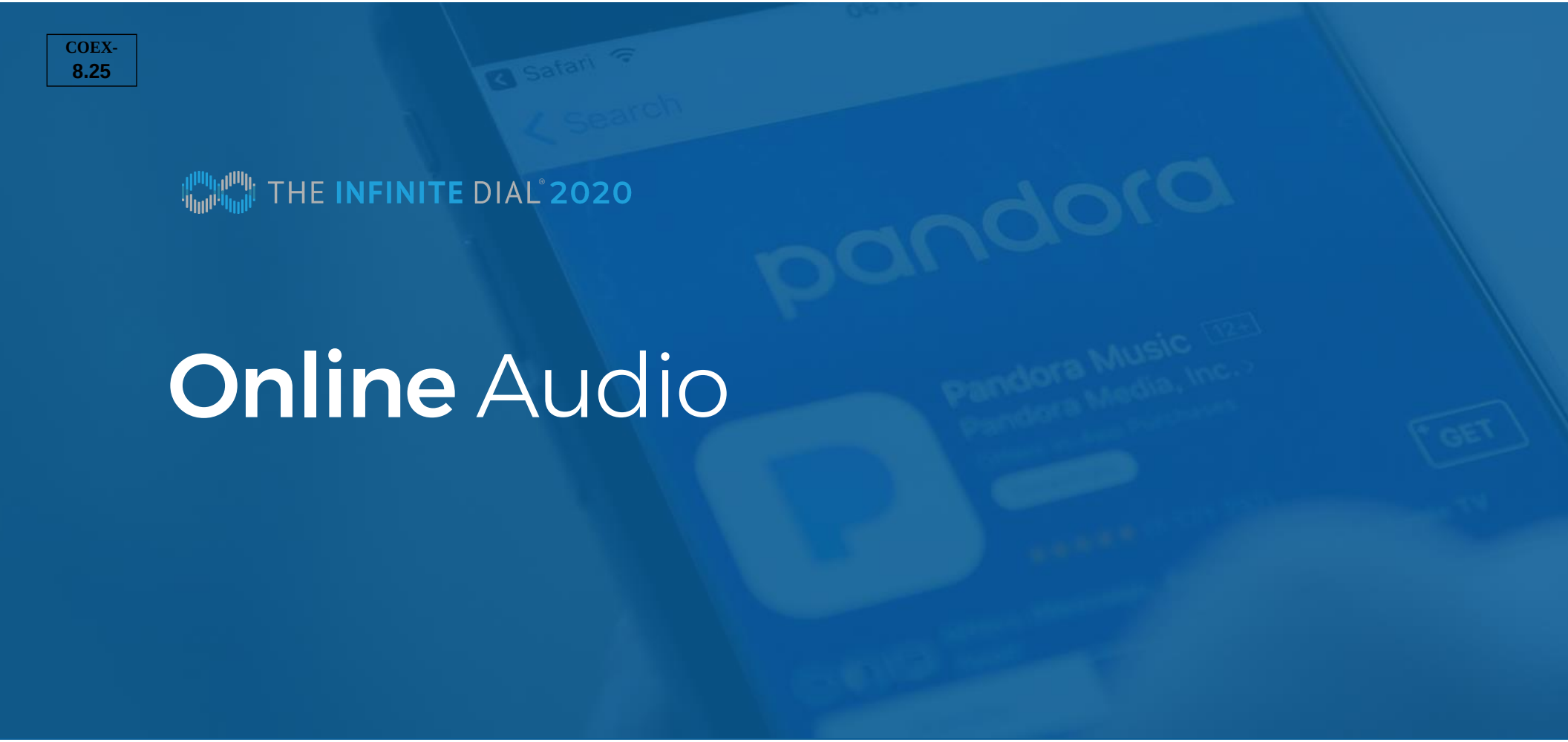

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Online Audio

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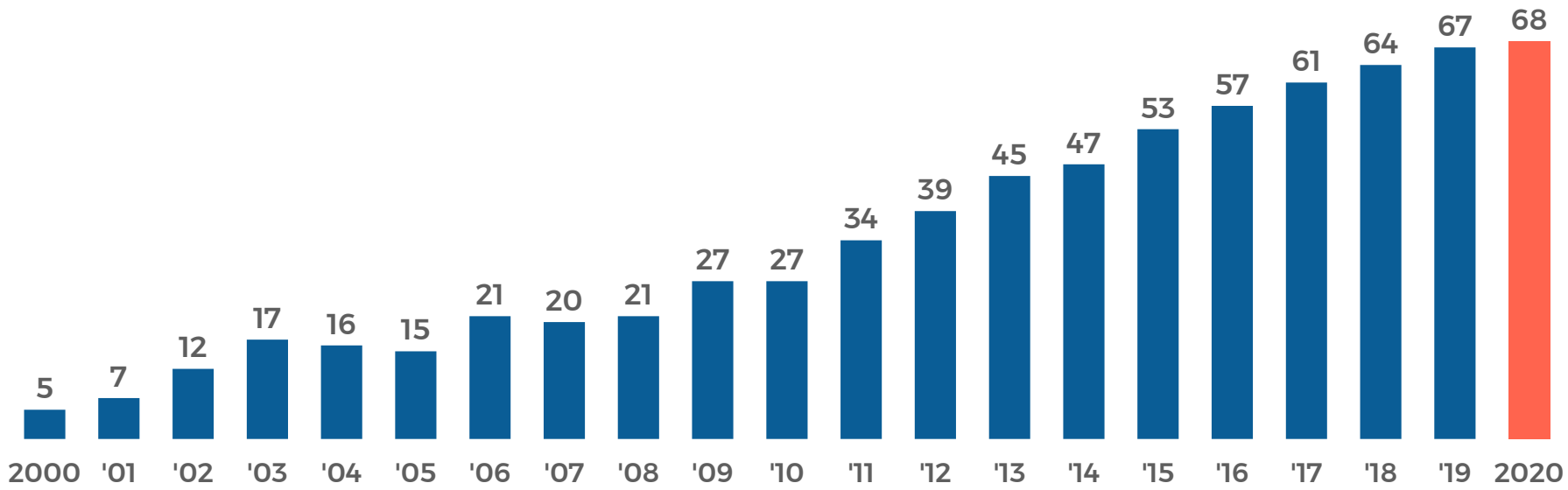
Monthly Online Audio Listening

TOTAL U.S. POPULATION 12+

% LISTENED TO ONLINE AUDIO IN LAST MONTH

ONLINE AUDIO = LISTENING TO AM/FM RADIO STATIONS ONLINE AND/OR
LISTENING TO STREAMED AUDIO CONTENT AVAILABLE ONLY ON THE INTERNET

Estimated
192 Million



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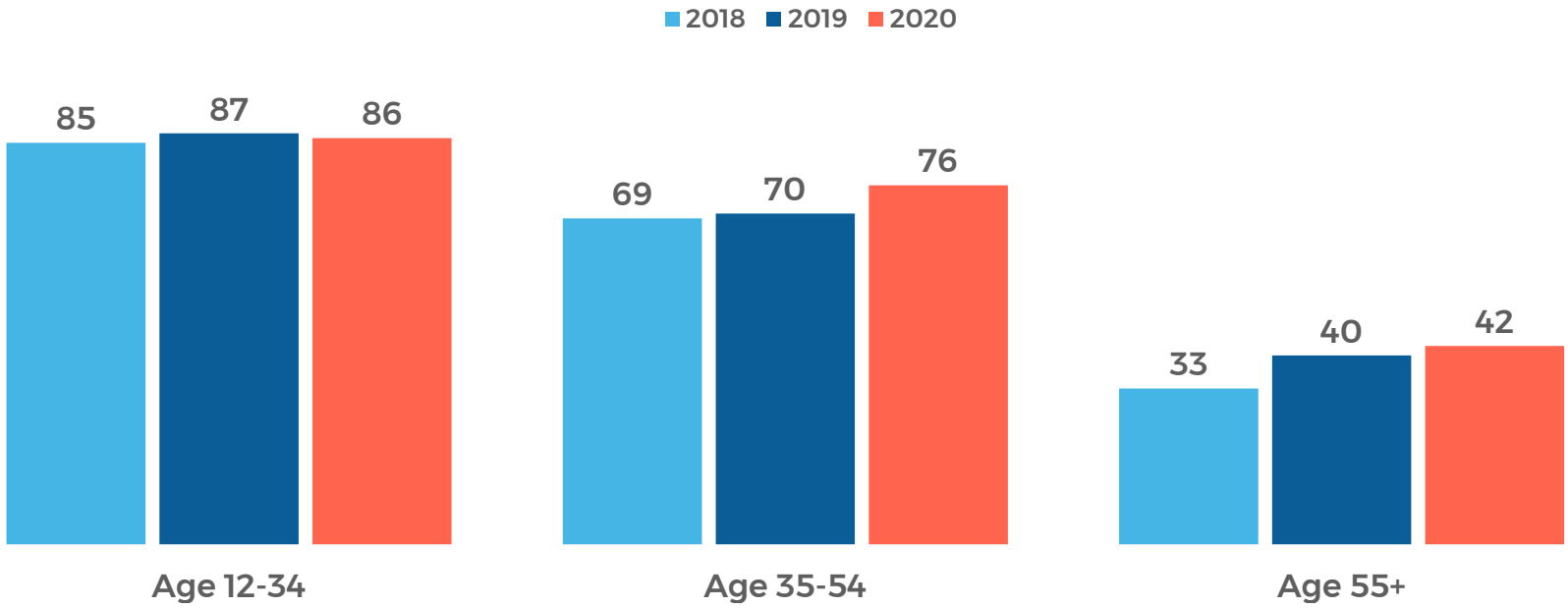
Monthly Online Audio Listening

U.S. POPULATION

% LISTENED TO ONLINE AUDIO IN LAST MONTH

ONLINE AUDIO = LISTENING TO AM/FM RADIO STATIONS ONLINE AND/OR
LISTENING TO STREAMED AUDIO CONTENT AVAILABLE ONLY ON THE INTERNET



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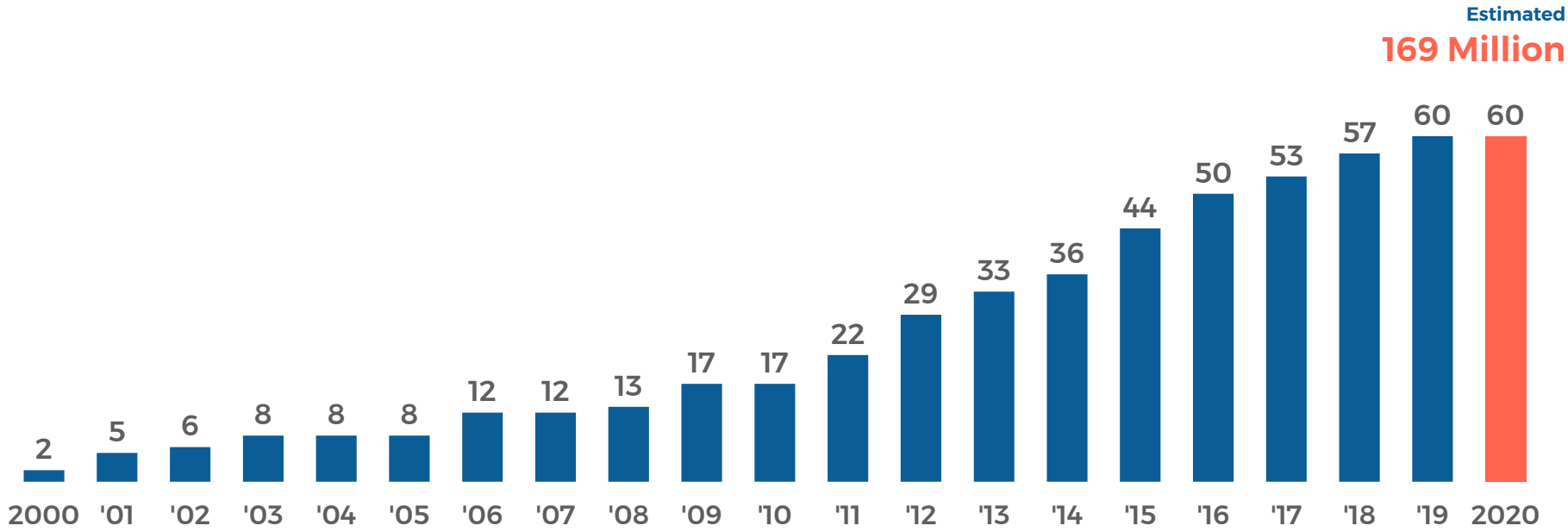
Weekly Online Audio Listening

TOTAL U.S. POPULATION 12+

% LISTENED TO ONLINE AUDIO IN LAST WEEK

ONLINE AUDIO = LISTENING TO AM/FM RADIO STATIONS ONLINE AND/OR
LISTENING TO STREAMED AUDIO CONTENT AVAILABLE ONLY ON THE INTERNET



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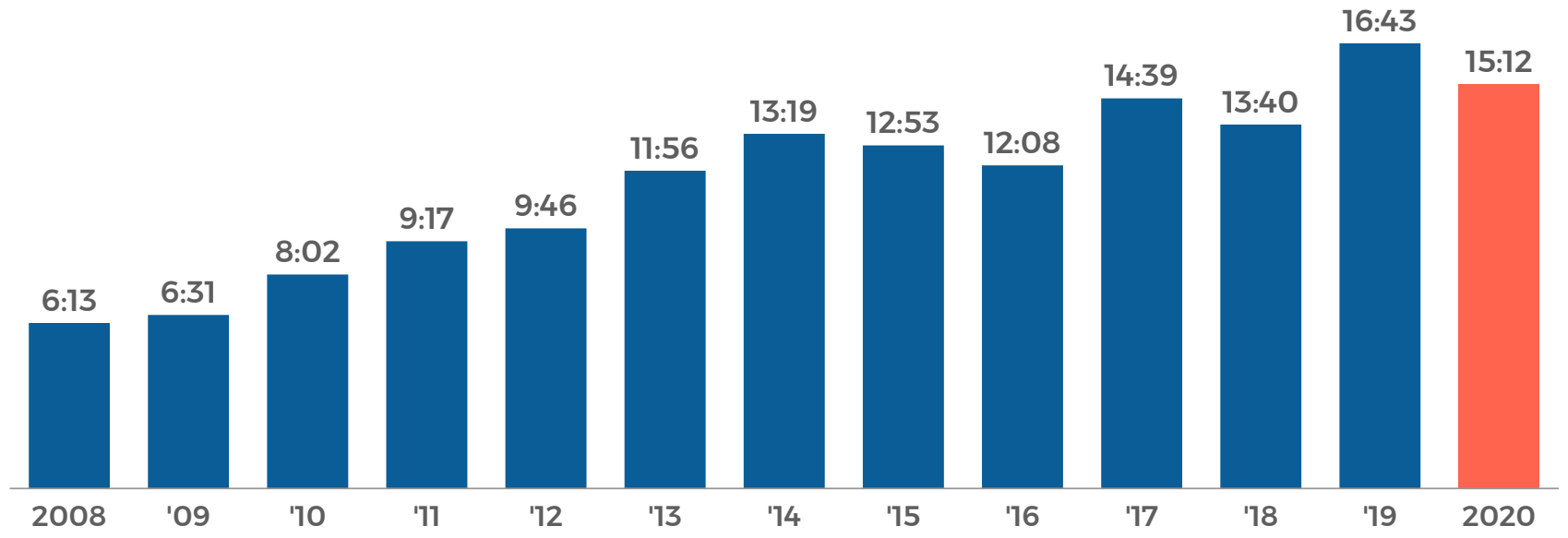
Average Time Spent Listening to Online Audio

BASE: U.S. AGE 12+ WEEKLY ONLINE AUDIO LISTENERS

HOURS:MINUTES IN LAST WEEK



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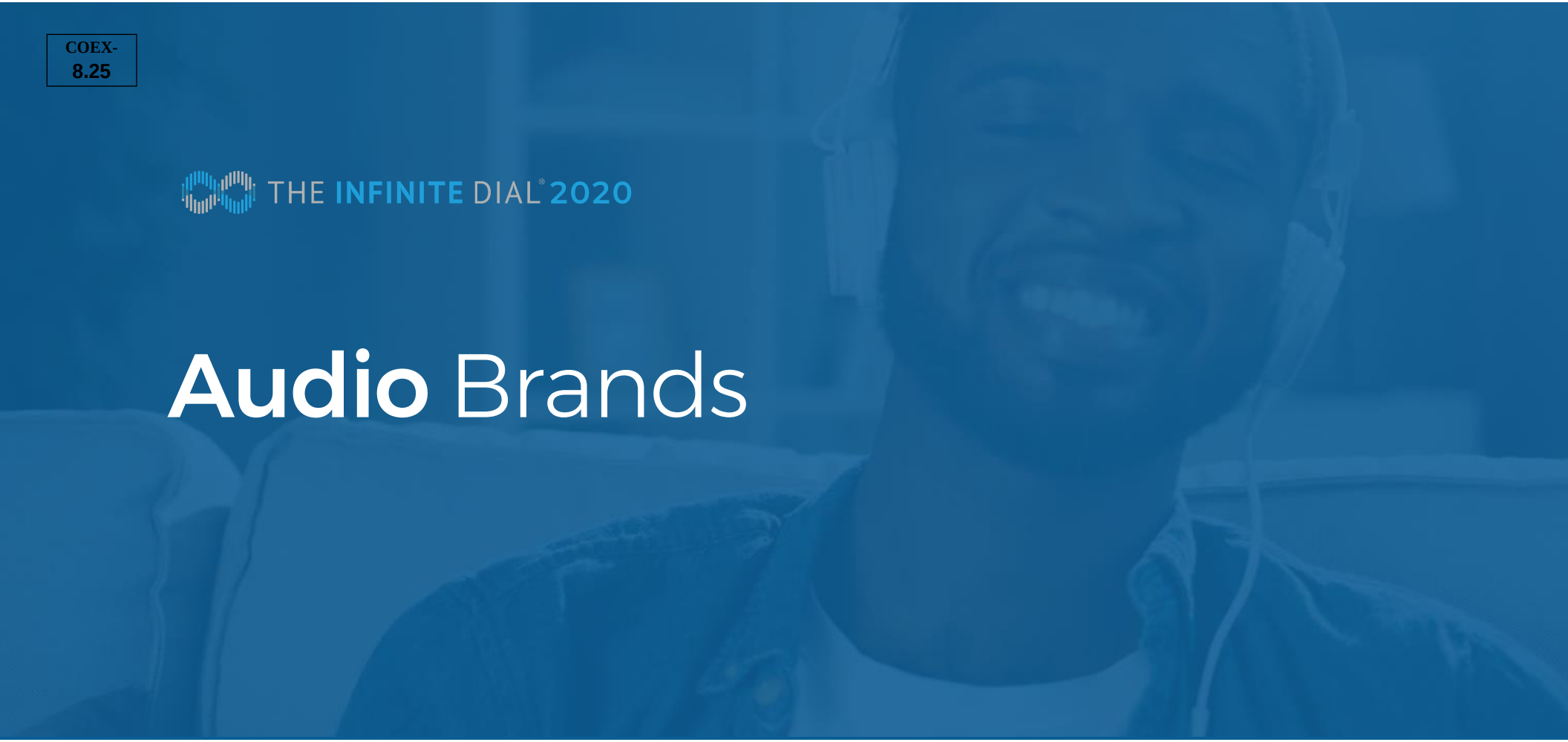

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Audio Brands

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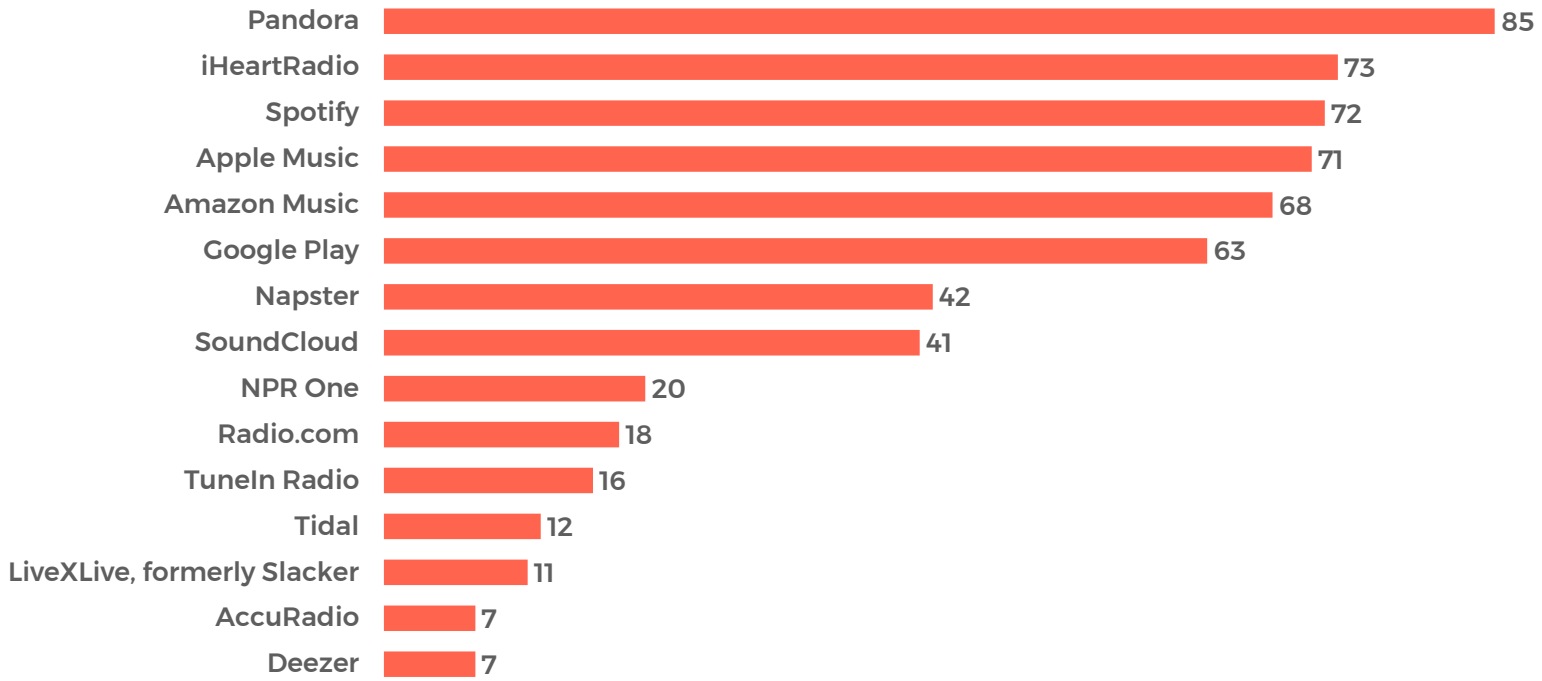
Audio Brand Awareness

TOTAL U.S. POPULATION 12+

% AWARE OF AUDIO BRAND



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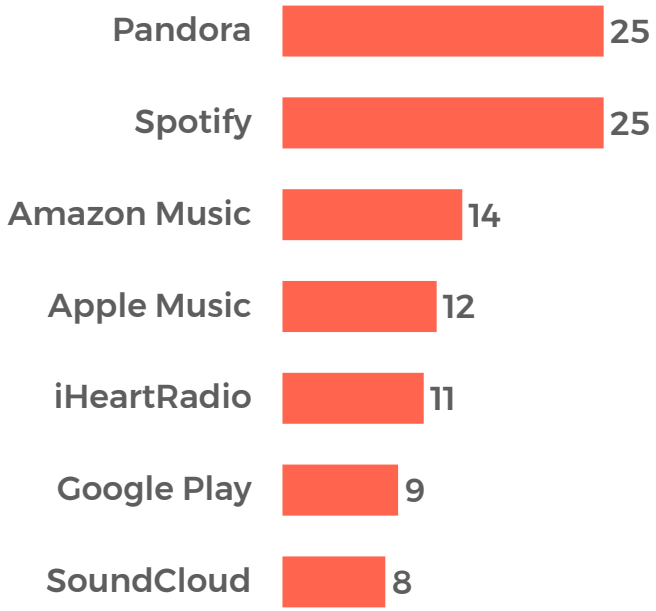
Audio Brands Listened to in Last Month

TOTAL U.S. POPULATION 12+

% LISTENED TO AUDIO BRAND IN LAST MONTH



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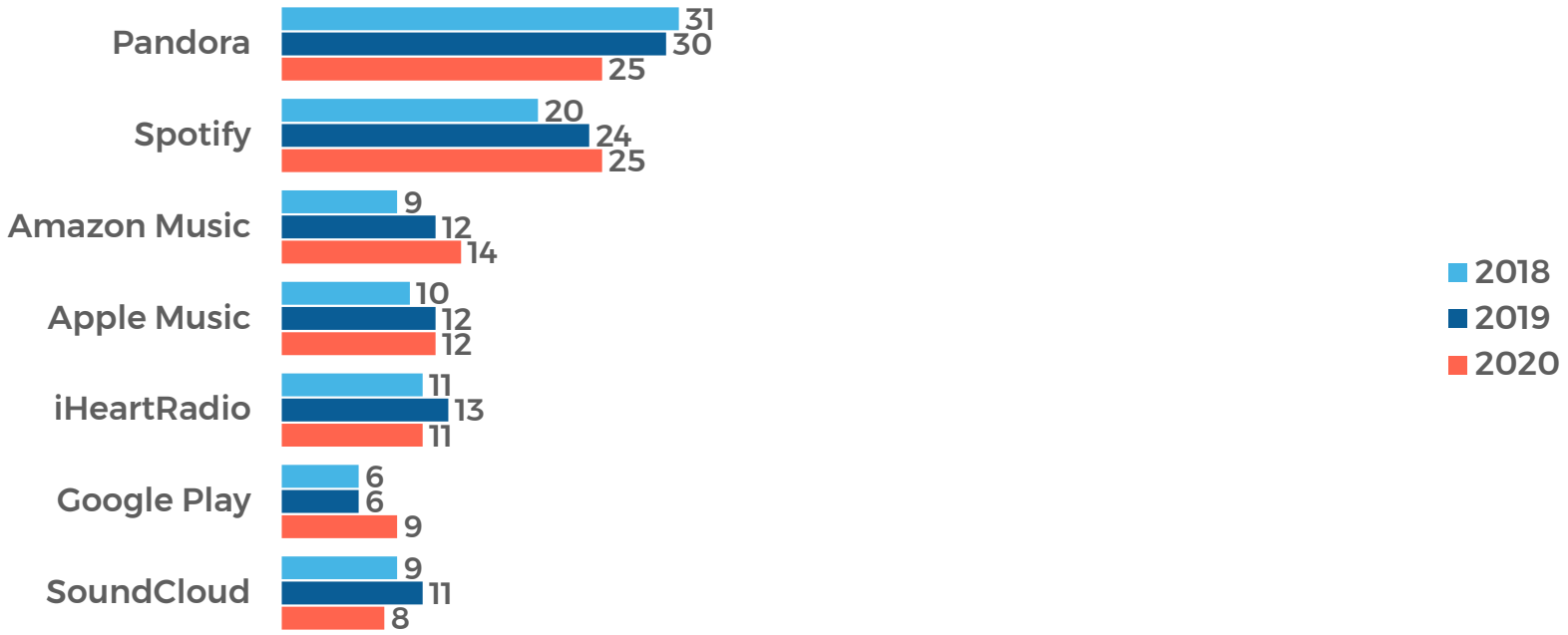
Audio Brands Listened to in Last Month

TOTAL U.S. POPULATION 12+

% LISTENED TO AUDIO BRAND IN LAST MONTH



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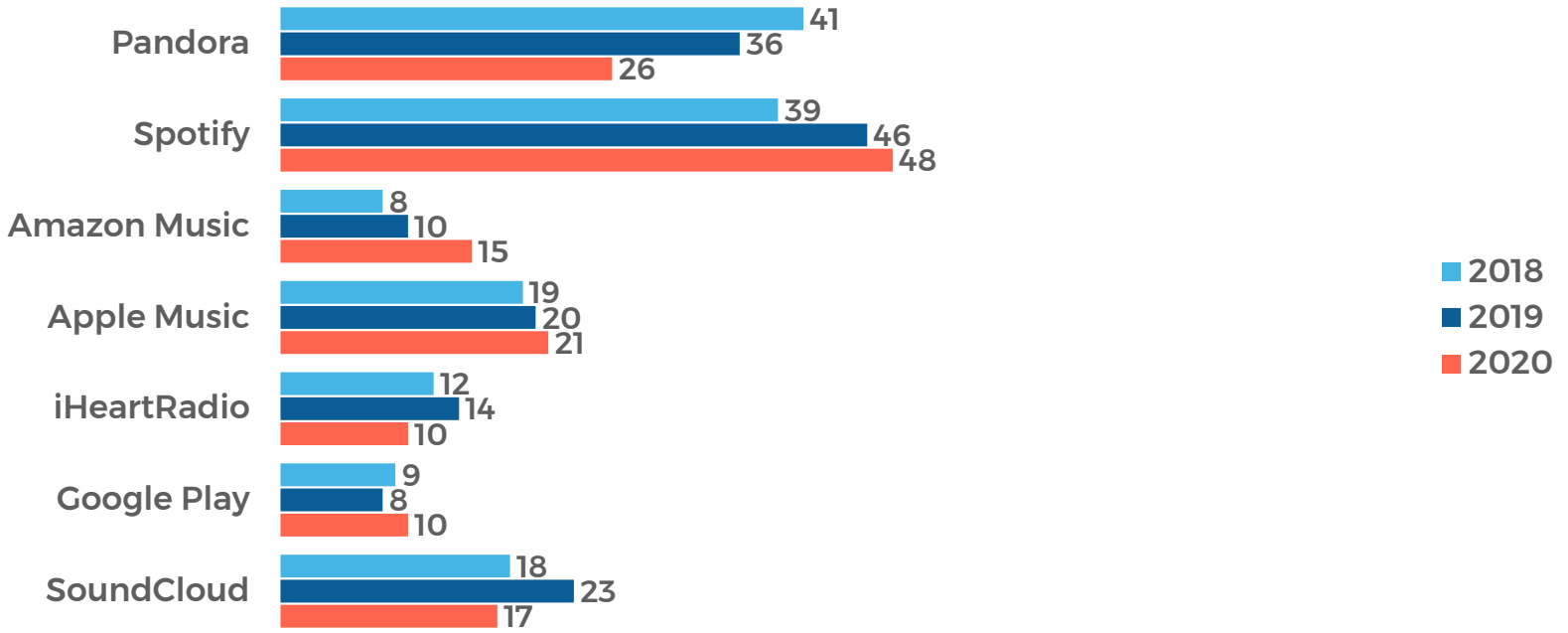
Audio Brand Listened to in Last Month (Age 12-34)

U.S. POPULATION

% LISTENED TO AUDIO BRAND IN LAST MONTH



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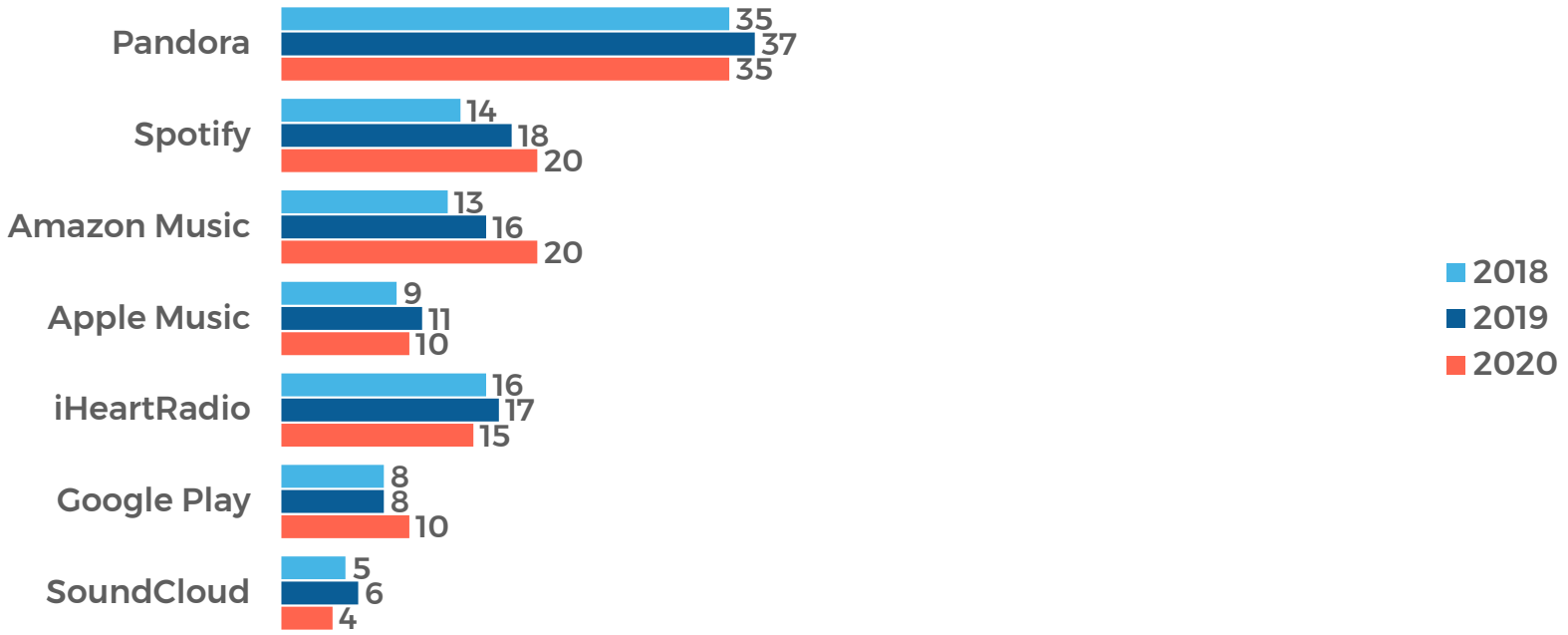
Audio Brand Listened to in Last Month (Age 35-54)

U.S. POPULATION

% LISTENED TO AUDIO BRAND IN LAST MONTH



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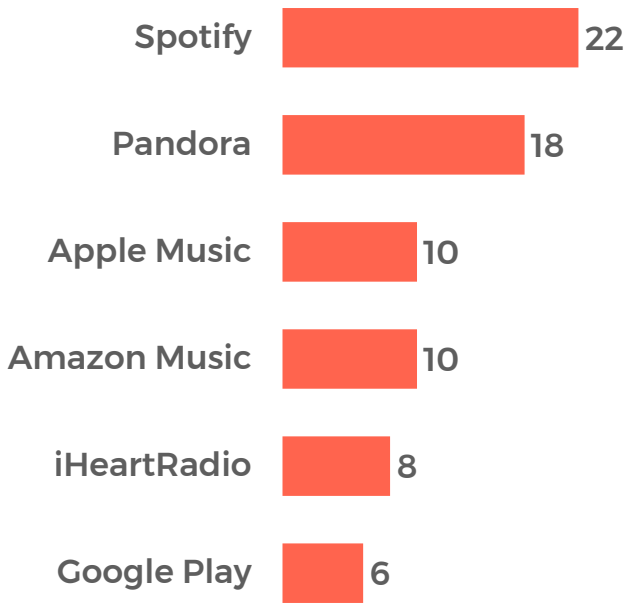
Audio Brands Listened to in Last Week

TOTAL U.S. POPULATION 12+

% LISTENED TO AUDIO BRAND IN LAST WEEK



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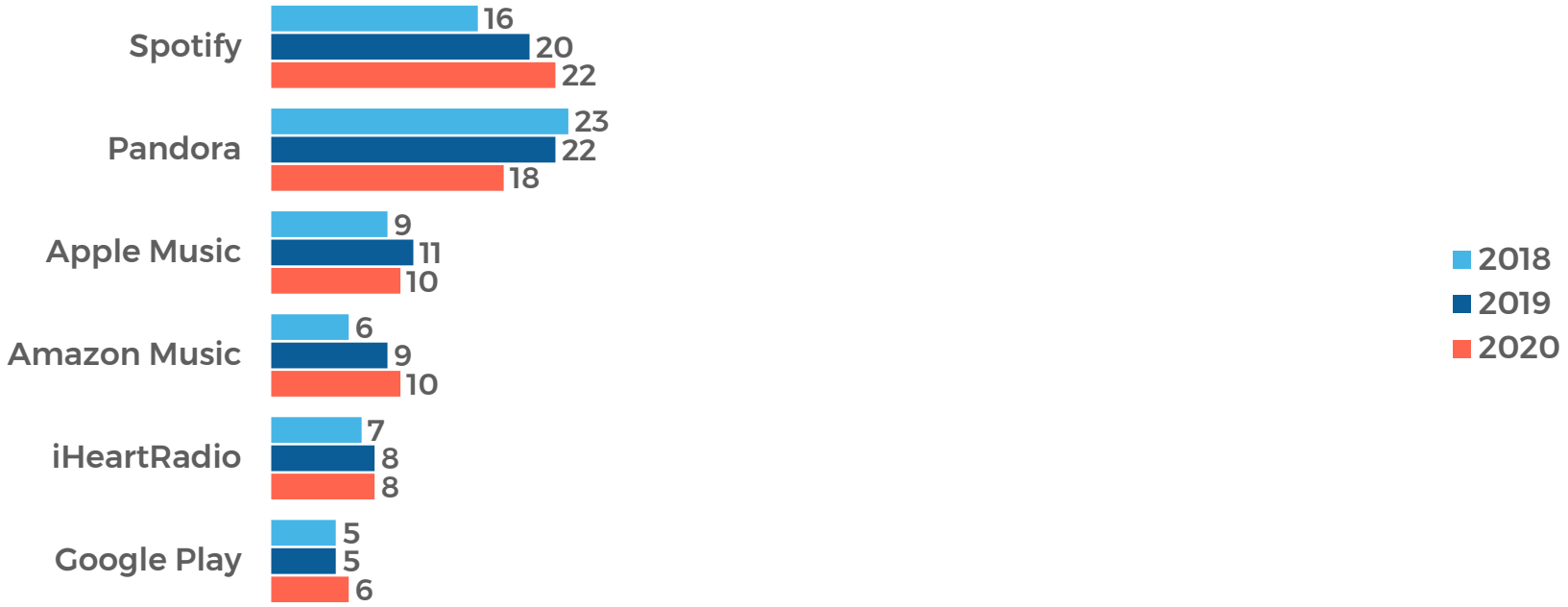
Audio Brands Listened to in Last Week

TOTAL U.S. POPULATION 12+

% LISTENED TO AUDIO BRAND IN LAST WEEK



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Pandora/SoundCloud Awareness and Usage

TOTAL U.S. POPULATION 12+

% SAYING YES

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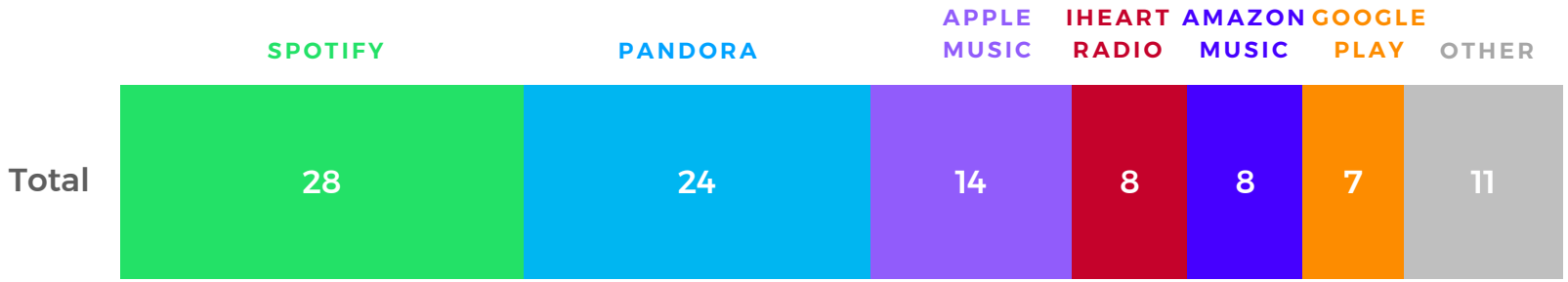
Audio Brand Used Most Often

BASE: U.S. AGE 12+ AND CURRENTLY EVER USE ANY AUDIO BRAND



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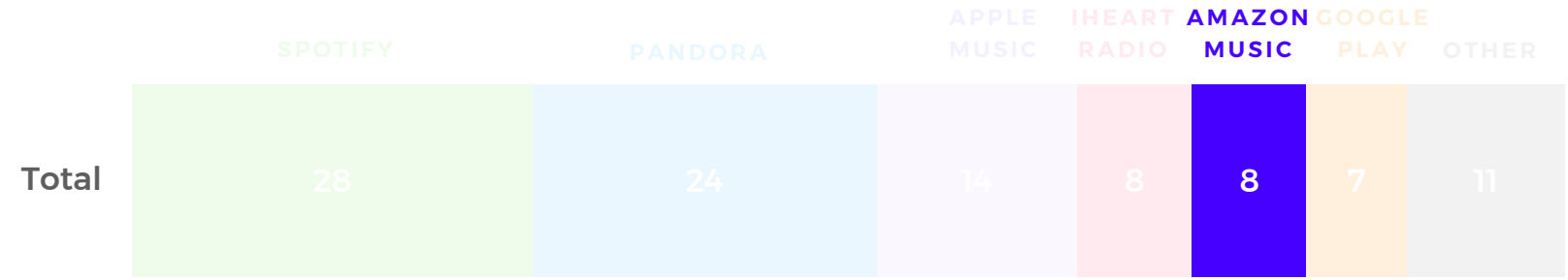
Audio Brand Used Most Often

BASE: U.S. AGE 12+ AND CURRENTLY EVER USE ANY AUDIO BRAND



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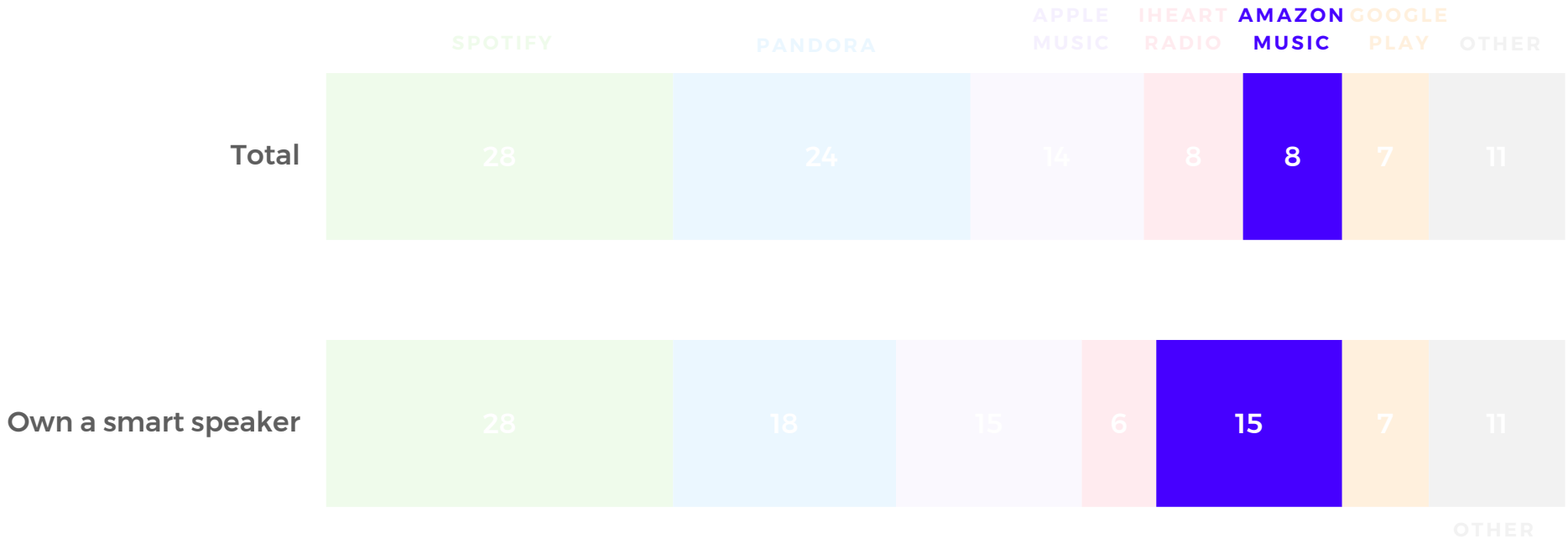
Audio Brand Used Most Often

BASE: U.S. AGE 12+ AND CURRENTLY EVER USE ANY AUDIO BRAND



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In-Car Media

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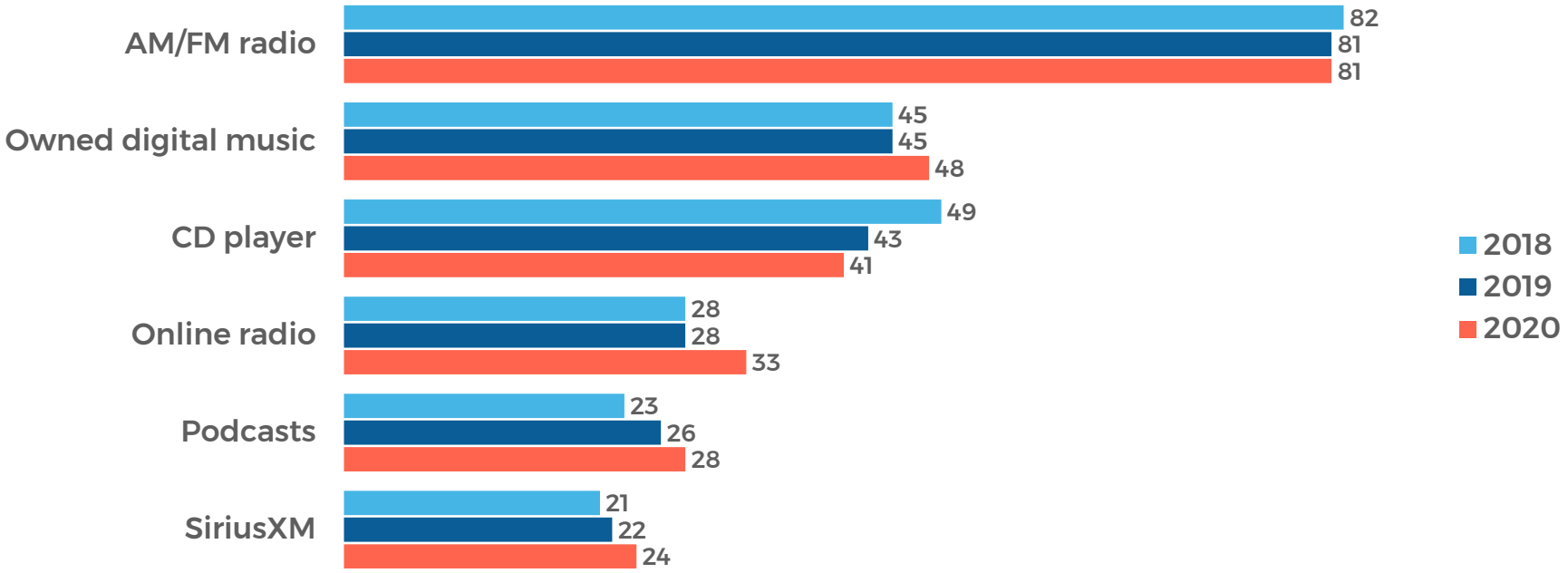
Audio Sources Currently Ever Used in Car

BASE: U.S. AGE 18+ AND HAS DRIVEN/RIDDEN IN CAR IN LAST MONTH; 89%

% USING AUDIO SOURCE IN CAR



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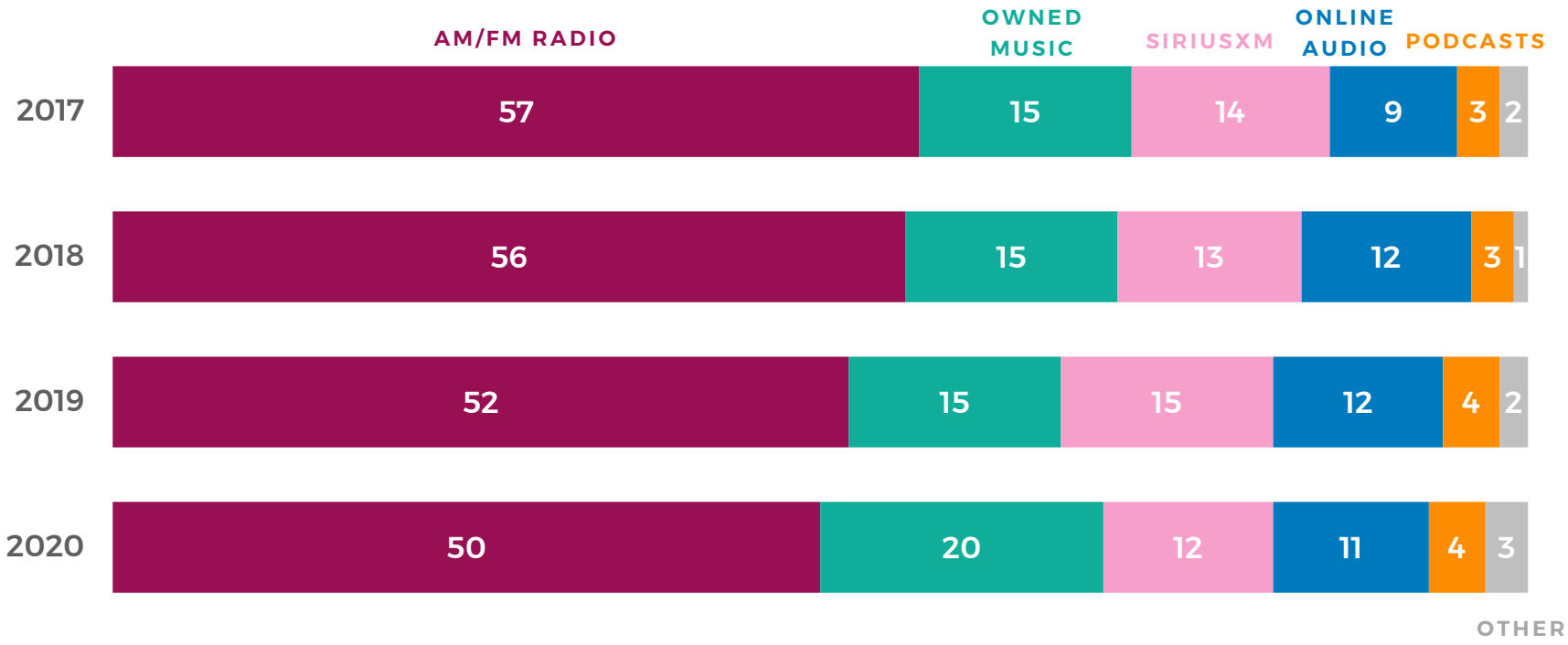
Audio Source Used Most Often in Car

BASE: U.S. AGE 18+, DRIVEN/RIDDEN IN CAR IN LAST MONTH, AND USE ANY AUDIO SOURCE IN CAR



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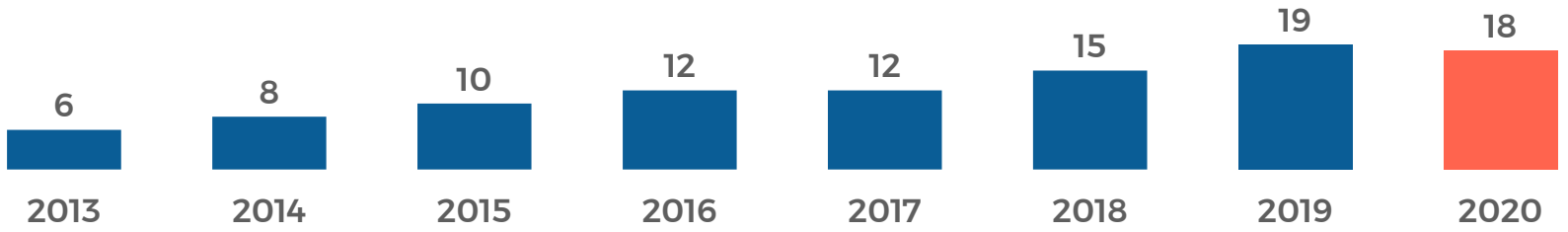
In-Dash Information and Entertainment Systems

BASE: U.S. AGE 18+ AND HAS DRIVEN/RIDDEN IN CAR IN LAST MONTH; 89%

% OWNING IN-DASH INFORMATION AND ENTERTAINMENT SYSTEM IN CAR



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Vehicle Integrated Mobile Operating Systems

BASE: U.S. AGE 18+, DRIVEN/RIDDEN IN CAR IN LAST MONTH, 89%

% HAVE SYSTEM IN PRIMARY VEHICLE

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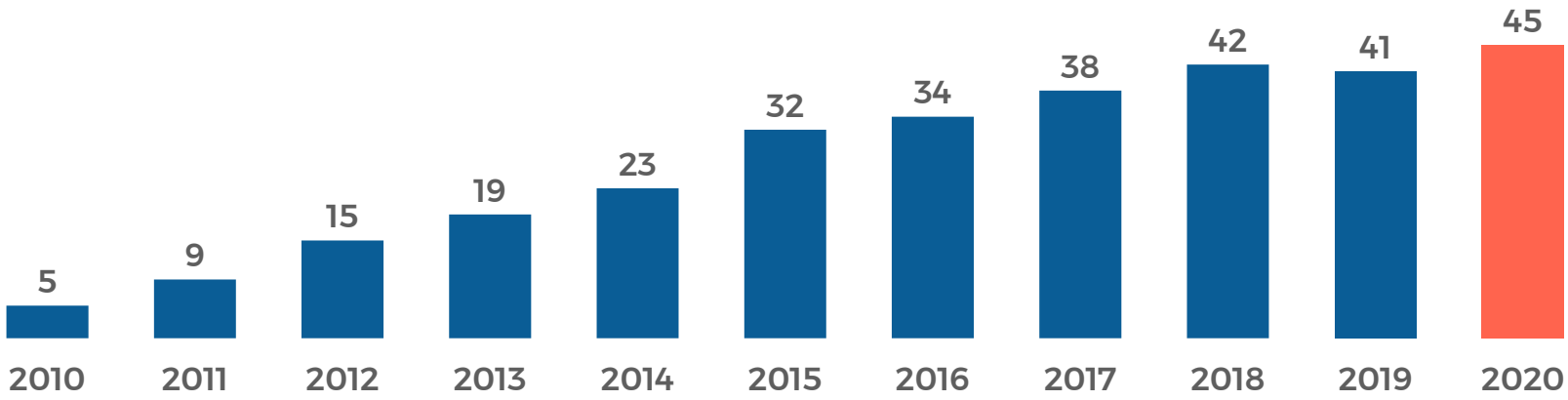
Online Audio Listening in Car Through a Cell Phone

TOTAL U.S. POPULATION 12+

% EVER LISTENED TO ONLINE AUDIO IN A CAR THROUGH A CELL PHONE



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Podcasting

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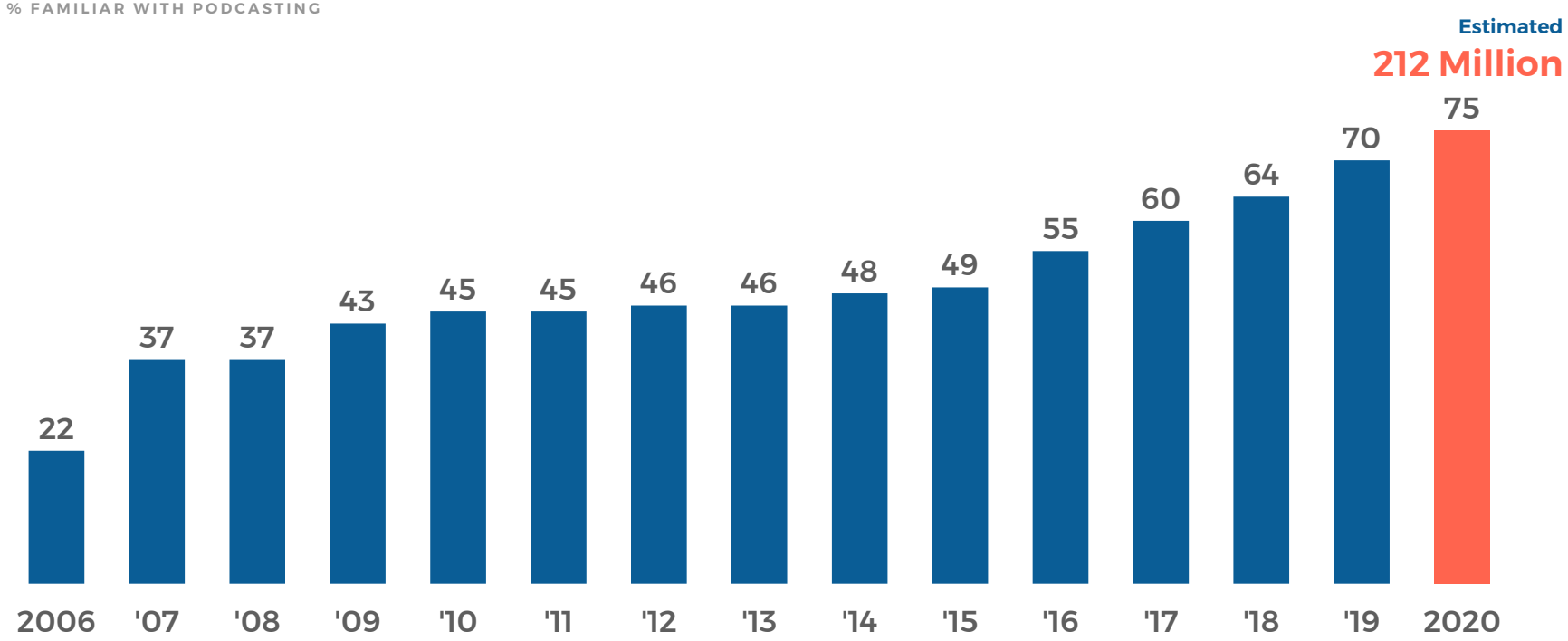
Podcasting Familiarity

TOTAL U.S. POPULATION 12+

% FAMILIAR WITH PODCASTING



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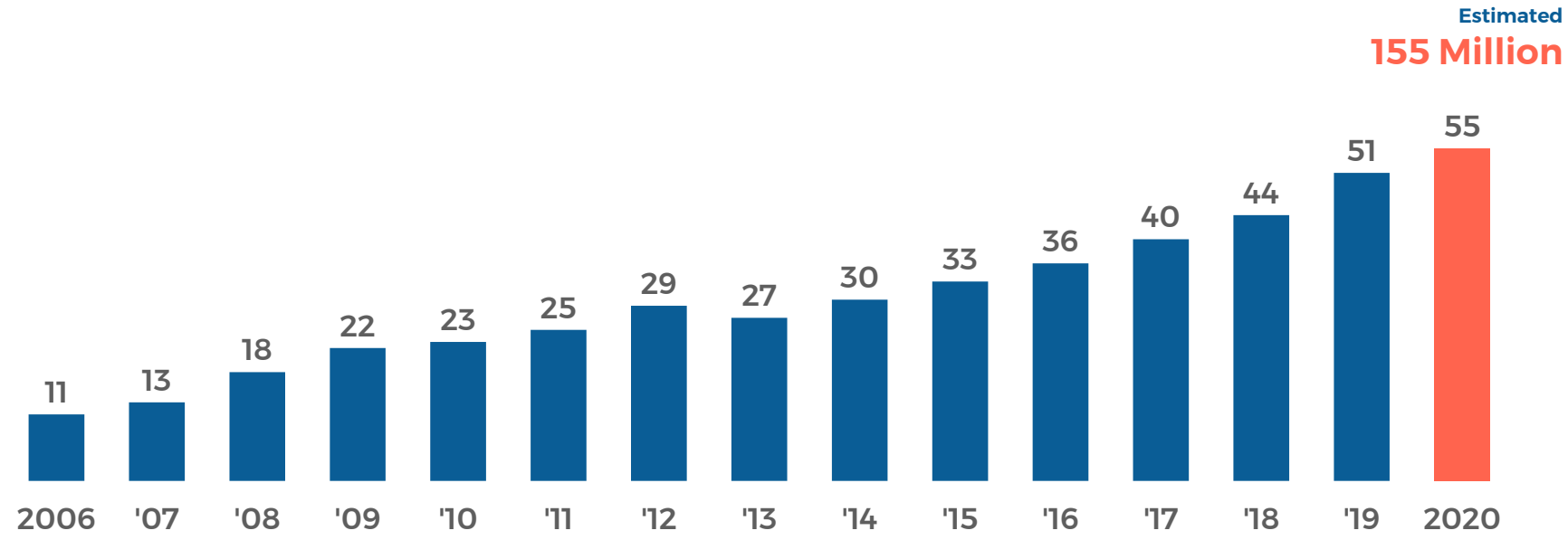
Podcasting Listening

TOTAL U.S. POPULATION 12+

% EVER LISTENED TO A PODCAST



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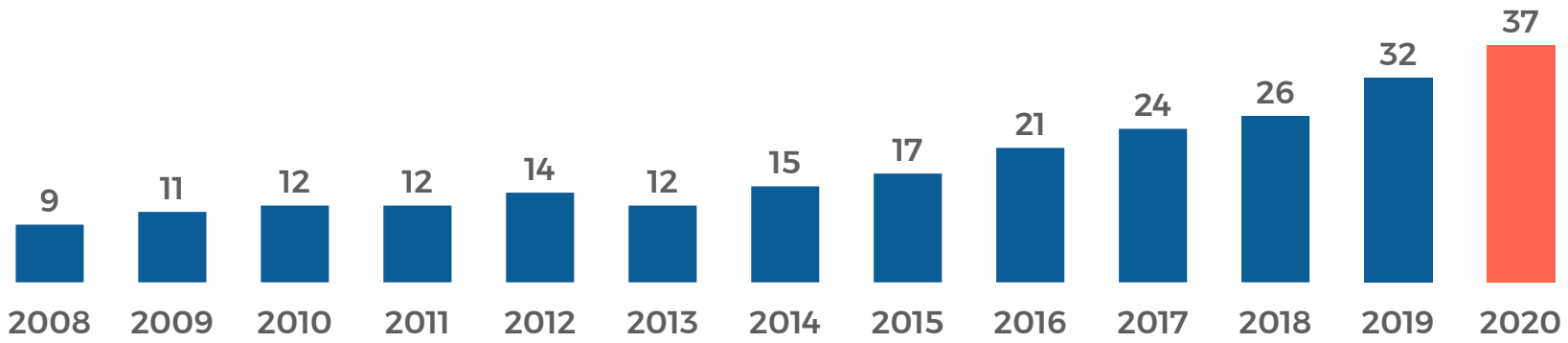
Monthly Podcast Listening

TOTAL U.S. POPULATION 12+

% LISTENED TO A PODCAST IN LAST MONTH

Estimated
104 Million



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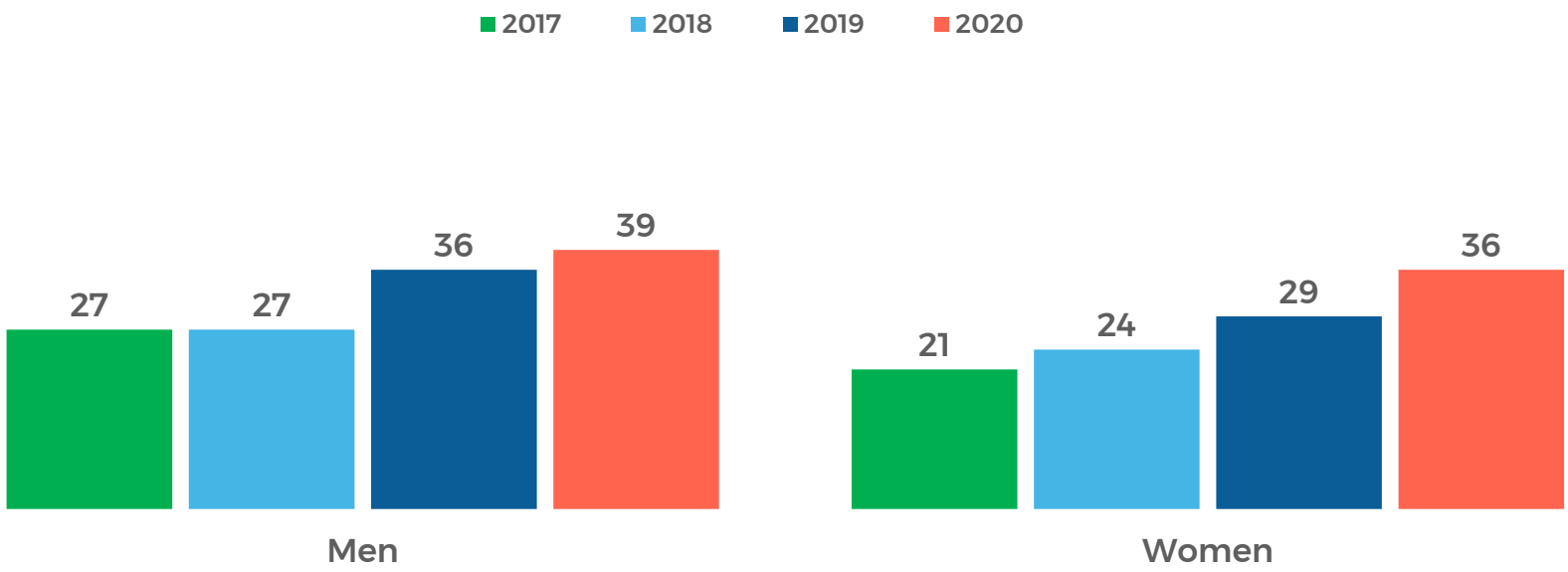
Monthly Podcast Listening

U.S. POPULATION

% LISTENED TO A PODCAST IN LAST MONTH



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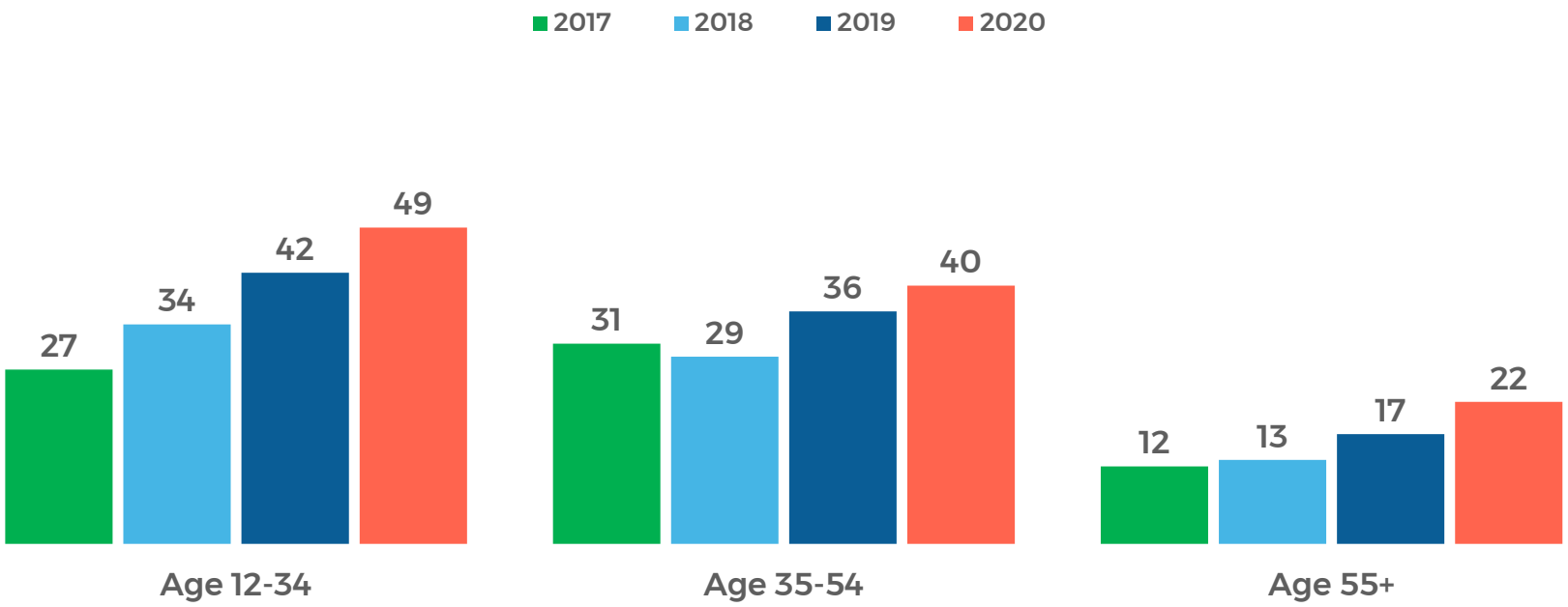
Monthly Podcast Listening

U.S. POPULATION

% LISTENED TO A PODCAST IN LAST MONTH



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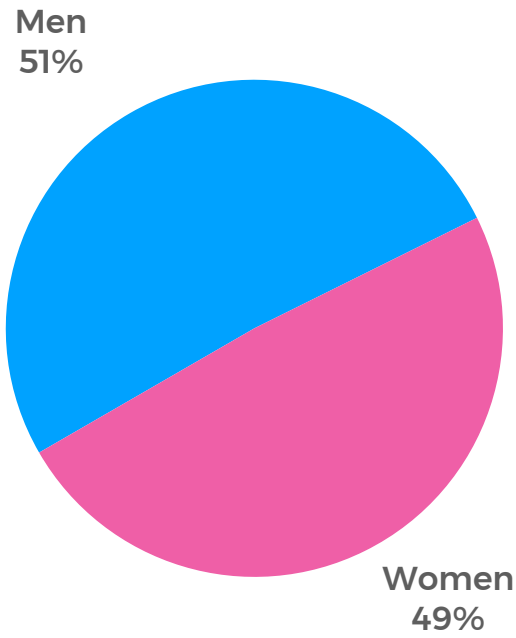
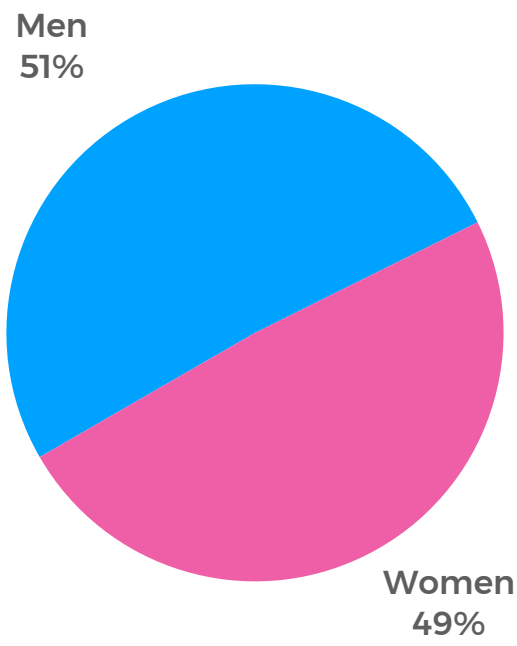
Sex of Monthly Podcast Listeners

BASE: U.S. AGE 12+ AND LISTENED TO PODCAST IN LAST MONTH

U.S. POPULATION 12+



MONTHLY PODCAST CONSUMERS 12+



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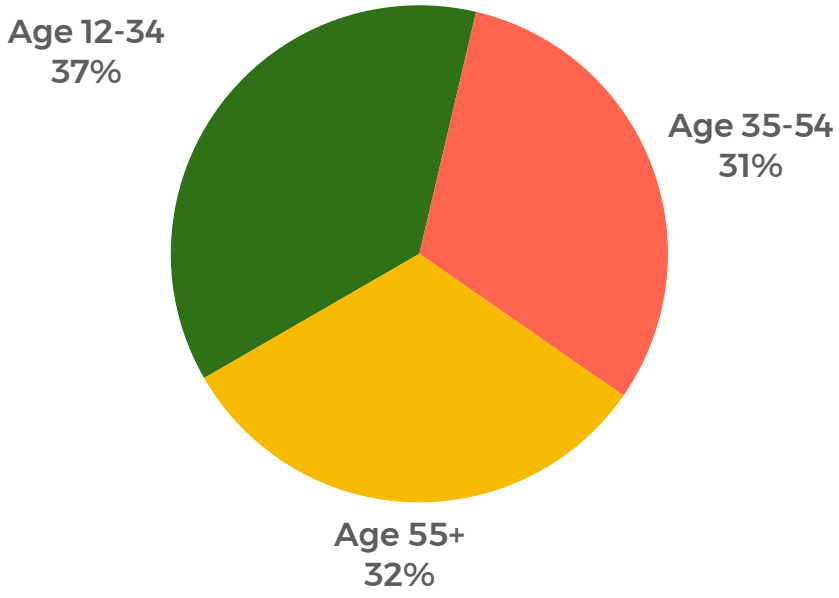
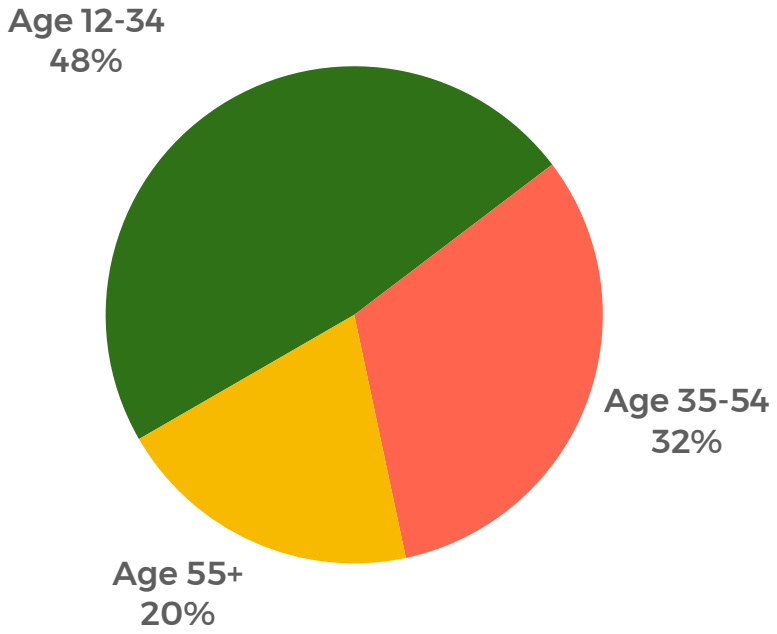
Age of Monthly Podcast Listeners

BASE: U.S. AGE 12+ AND LISTENED TO PODCAST IN LAST MONTH

U.S. POPULATION 12+



MONTHLY PODCAST CONSUMERS 12+



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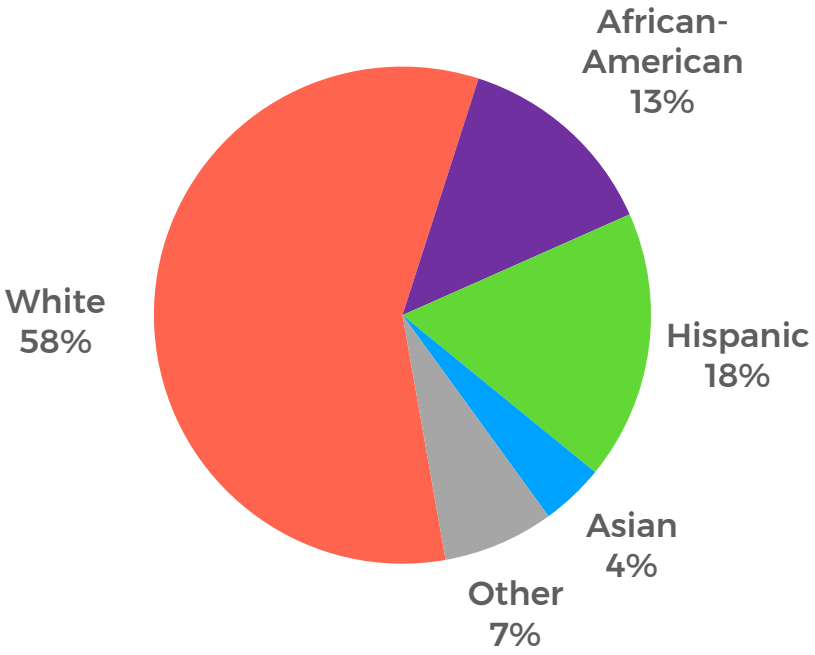
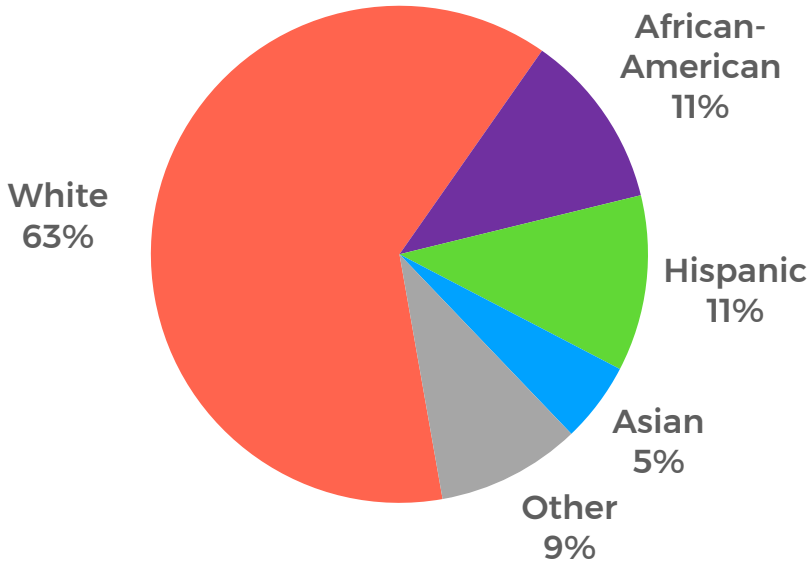
Ethnicity of Monthly Podcast Listeners

BASE: U.S. AGE 12+ AND LISTENED TO PODCAST IN LAST MONTH

U.S. POPULATION 12+



MONTHLY PODCAST CONSUMERS 12+



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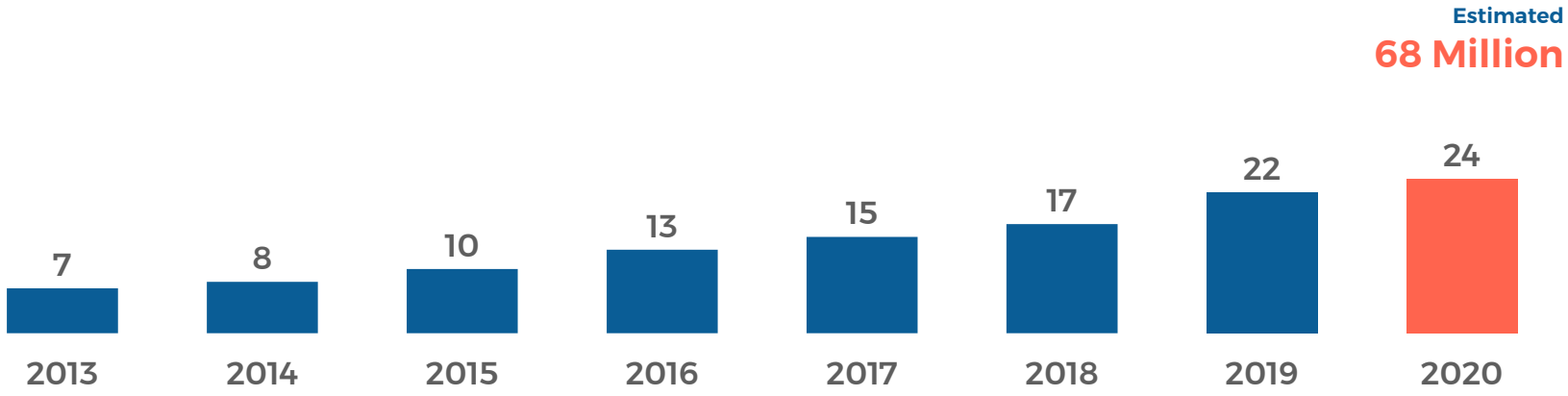
Weekly Podcast Listening

TOTAL U.S. POPULATION 12+

% LISTENED TO A PODCAST IN LAST WEEK



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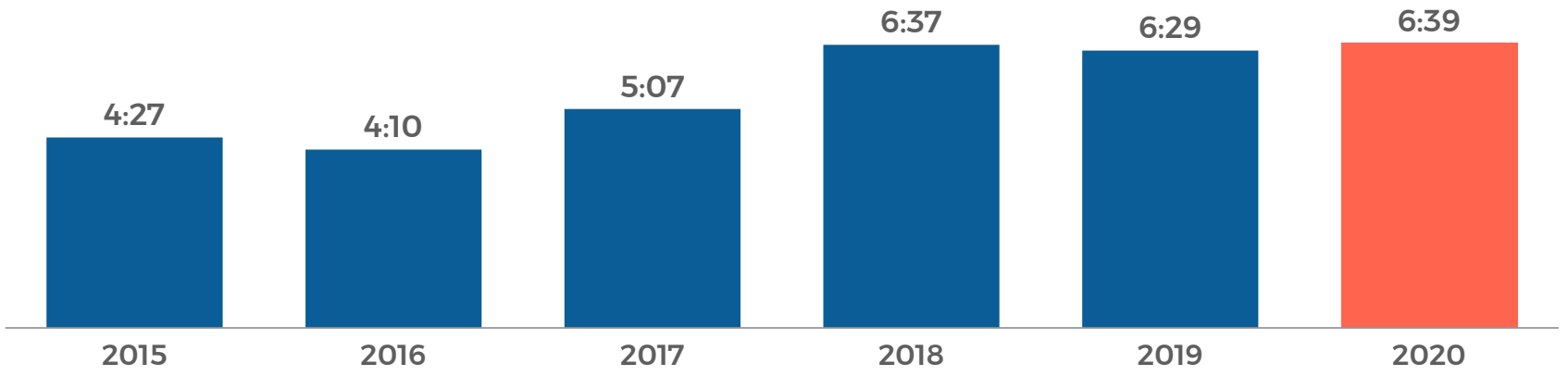
Average Time Spent Listening to Podcasts

BASE: U.S. AGE 12+ AND LISTENED TO PODCAST IN LAST WEEK

HOURS:MINUTES IN LAST WEEK



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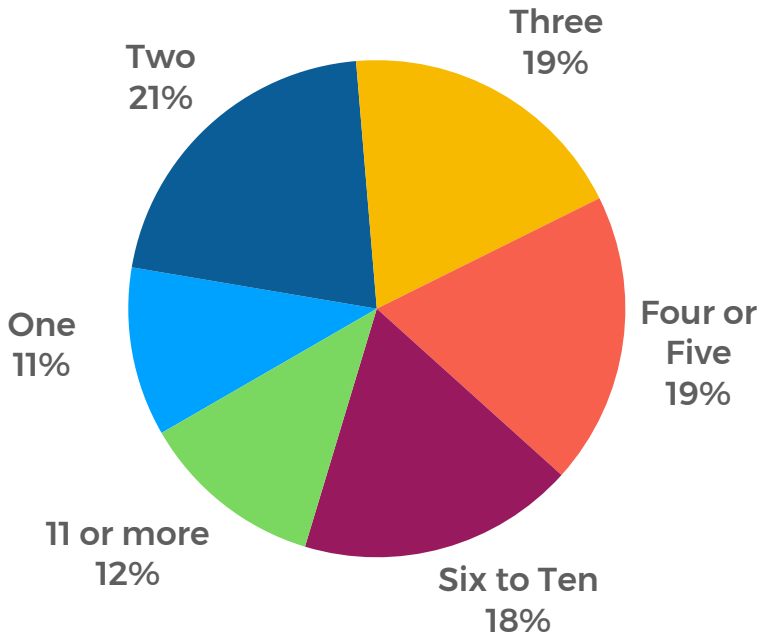
Number of Podcasts Listened to in Last Week

BASE: U.S. AGE 12+ AND LISTENED TO PODCAST IN LAST WEEK



U.S. weekly podcast listeners averaged

Six podcasts

in the last week

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Observations

Monthly podcast consumers grew by 16% year-over-year, cresting 100 million Americans for the first time.

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Observations

Approximately 169 million Americans listened to online audio in the last week, spending an average of over 15 hours doing so.

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Observations

More than six in ten Americans use some form of voice assistant technology. It is incumbent upon content producers to ensure their content is easily retrievable through voice.

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COEX-
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Observations

With nearly one-third of smart speaker owners having three or more devices in their homes, there is increased opportunity to produce audio for environments and contexts previously underserved.

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Observations

With smartphone, tablet, and smartwatch showing no new growth, in-car currently holds the most potential for digital audio growth.

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Observations

In-car media users continue to incorporate digital audio, though AM/FM remains strong.

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Observations

Pandora and Spotify are tied among Americans 12+ for monthly users, while Amazon music has become a strong third, buoyed by smart speaker owners.

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Observations

Social media's growth cycle seems to have ended, though Instagram continues to show growth, and TikTok has made a strong early impression.

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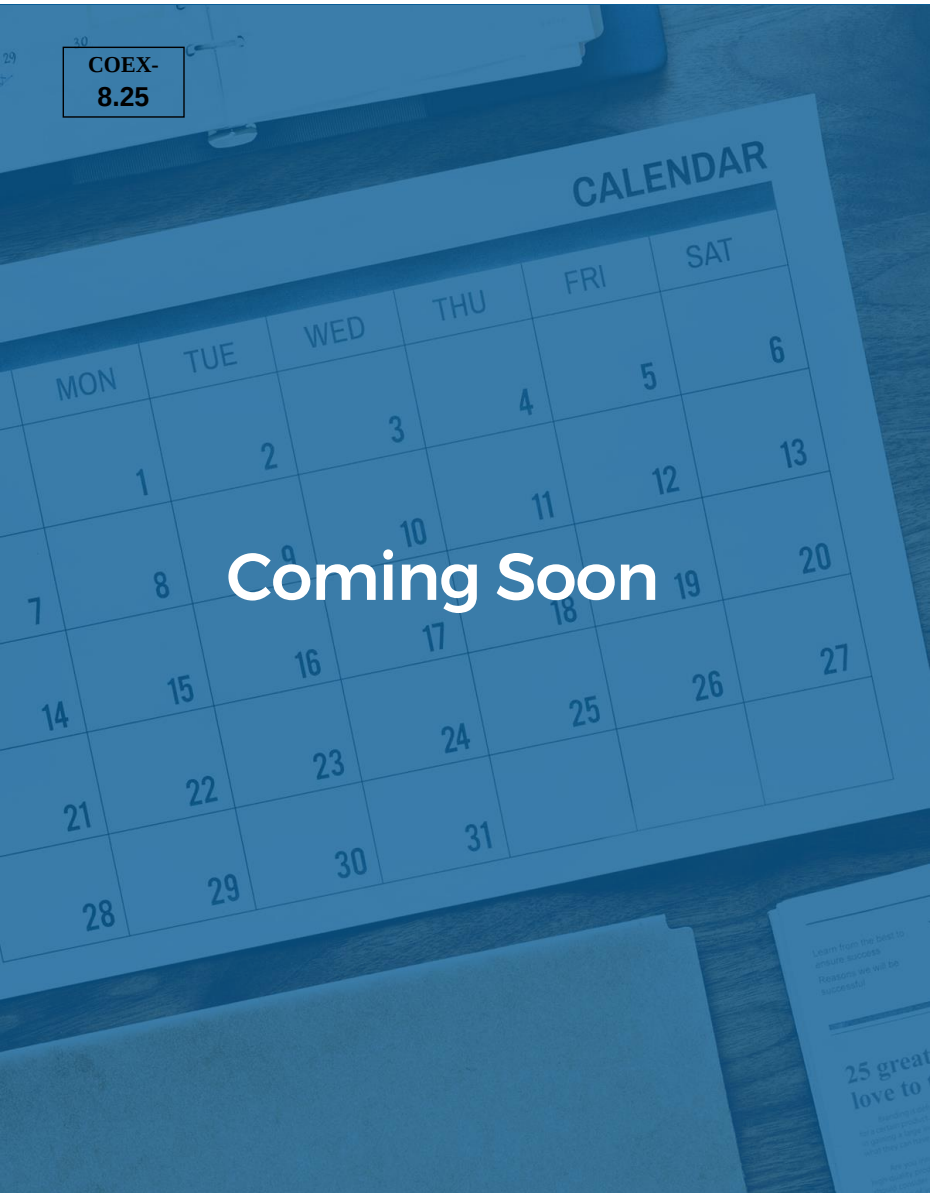

April 2, 2020

Inside an award-winning content marketing program: The Infinite Dial

April 16, 2020

Portents for November: A review of the Edison Research Democratic Primary Exit Polls

Details soon

The Infinite Dial – Australia

Details soon

Moms and Media

Details soon

The Infinite Dial – Canada

Details to follow at **www.edisonresearch.com**

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COEX-8.26
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8.26

RESTRICTED Subject to Protective Order in
Docket No. 21-CRB-0001-PR (2023-27) (Phonorecord IV)

Apple Inc.

Material rev/EPS upside despite supply chain headwinds driven by across the board strength

Equities

Americas
Computers

12-month rating **Buy**

12m price target	**US$175.00**
	Prior : US$166.00
Price (27 Jul 2021)	**US$146.77**

RIC: AAPL.O **BBG:** AAPL US

Trading data and key metrics

52-wk range	US$149.15-95.04
Market cap.	US$2,463b
Shares o/s	16,782m (COM)
Free float	100%
Avg. daily volume ('000)	85,050
Avg. daily value (m)	US$11,387.1
Common s/h equity (09/21E)	US$64.5b
P/BV (09/21E)	38.8x
Net debt to EBITDA (09/21E)	0.3x

EPS (UBS, diluted) (US$)

	09/21E			
	From	To	% ch	Cons.
Q1	1.68	1.68	0	1.68
Q2	1.40	1.40	0	1.40
Q3	1.01	1.30	28	1.01
Q4E	1.05	1.15	9	1.13
09/21E	5.15	5.53	7	5.20
09/22E	5.20	5.57	7	5.36
09/23E	5.43	5.78	6	5.63

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Strengthening interest in Apple offerings results in material rev and EPS upside

Although our research indicated Apple's FY3Q results would likely be solid and top ests, the magnitude of the rev and EPS upside in the qtr was somewhat surprising in our view given supply chain headwinds. Rev of $81.4B exceeded our above consensus est by ~9% while EPS of $1.30 topped our est and consensus by 28%. Similar to last qtr, every rev segment materially beat forecast as the 'stickiness' of the ecosystem, attach rates, and pricing of Apple products continue to rise. While we est iPhone units increased ~ 20% YoY, we est ASPs were up ~25% driven by a mix to higher end devices, a trend since the launch of the iPhone 12. Going forward, we expect iPhone ASPs to continue to increase despite more modest unit growth in FYQ4 (supply chain could dampen units by 3-4M) and FY22 (flattish units compared to FY21) as consumers have demonstrated a propensity for both the Max and ProMax models that carry higher ASPs and GMs.

Positives/Negatives

Positives:1) Rev of $81.4B was 9% above our est driving EPS 28% higher on better GMs and lower tax, 2) Broad based strength across product segments and geographies, 3) Wearables segment was up 36% YoY mainly due to strength in Watch and AirPods but also benefitting from new Apple TV device and AirTags, 4) iPhone rev increased 50% YoY with est units slightly higher at 46M (UBSe 44M) with est ASPs 4% above forecast. Negatives: 1) Despite strong demand, supply chain headwinds likely to hit iPhone rev by ~$3M in Sept qtr. 2) Chg. in FX rates will be less favorable by 300bps in Sept qtr. 3) Post COVID Services comps become more difficult in FYQ4 resulting in a more normalized mid to high teens growth rate.

Raising revenue and EPS ests driven by sustained unit and ASP strength

Despite our optimism heading into the qtr, strength was more broad based than we expected. As such, we raise FY21 rev and EPS ests to ~$364B from ~$356B, and $5.53 from $5.15. For FY22 we raise rev and EPS ests to ~$376B from ~$365B, and $5.57 from $5.20.

Raise PT to $175 (prior $166) reflects higher "Core" estimates

Apple currently trades at ~27x NTM P/E, below its trailing 1-year avg of ~29x. However, we believe a SOTP framework is more appropriate given auto optionality. We raise our PT to $175 from $166 to reflect higher CY22/CY23 ests driving our "Core Apple" value to $161 from $152 plus an evenly-weighted probability value of Apple's auto opportunity ($14/shr). Our "Core" value is derived by applying 28x (unch) to our avg CY22/CY23 EPS est of $5.77 (prior $5.42).

Highlights (US$m)	09/18	09/19	09/20	09/21E	09/22E	09/23E	09/24E	09/25E
Revenues	265,595	260,174	274,515	363,752	375,581	387,182	405,302	418,531
EBIT (UBS)	70,898	63,930	66,288	107,905	106,762	108,655	115,046	119,957
Net earnings (UBS)	59,531	55,895	57,411	93,267	91,127	92,012	97,608	101,974
EPS (UBS, diluted) (US$)	2.98	3.01	3.28	5.53	5.57	5.78	6.28	6.71
DPS (net) (US$)	0.68	0.75	0.80	0.85	0.98	1.18	1.38	1.58
Net (debt) / cash	(48,182)	(7,490)	(21,493)	(38,607)	3,508	14,535	33,570	53,125
Profitability/valuation	**09/18**	**09/19**	**09/20**	**09/21E**	**09/22E**	**09/23E**	**09/24E**	**09/25E**
EBIT (UBS) margin %	26.7	24.6	24.1	29.7	28.4	28.1	28.4	28.7
ROIC (EBIT) %	(409.4)	<-500	<-500	<-500	(397.0)	(336.1)	(322.6)	(308.8)
EV/EBITDA (UBS core) x	9.9	10.7	17.2	19.9	20.0	19.7	18.6	17.7
P/E (UBS, diluted) x	15.3	16.0	24.8	27.0	26.7	25.8	23.7	22.2
Equity FCF (UBS) yield %	6.8	6.4	5.2	4.6	4.3	4.1	4.4	4.5
Dividend yield (net) %	1.5	1.6	1.0	0.6	0.7	0.8	0.9	1.1

Source: Company accounts, Thomson Reuters, UBS estimates. Metrics marked as (UBS) have had analyst adjustments applied. Valuations: based on an average share price that year, (E): based on a share price of US$ 146.77 on 27-Jul-2021

This report has been prepared by UBS Securities LLC **ANALYST CERTIFICATION AND REQUIRED DISCLOSURES, INCLUDING INFORMATION ON THE QUANTITATIVE RESEARCH REVIEW PUBLISHED BY UBS, BEGIN ON PAGE 7.** UBS does and seeks to do business with companies covered in its research reports. As a result, investors should be aware that the firm may have a conflict of interest that could affect the objectivity of this report. Investors should consider this report as only a single factor in making their investment decision.

Fiscal 3Q summary - Product and Services strength drive upside

Apple reported total revenue of $81.4B, ~9%% above our estimate driven by upside across the board. EPS came is at $1.30, solidly ahead of our $1.01 estimate driven by both revenue upside and strong gross margin performance as increased unit shipments resulted in the second product gross margin (36%) since FY1Q 2018 despite deleveraging in a seasonally slower unit qtr. Services gross margins of 69.8% was +260bps YoY but down 30bps sequentially driven by mix.

Fiscal 4Q "framework" above our prior est despite supply chain headwinds

Consistent with previous quarters, Apple provided a limited forward outlook largely driven by the persistent uncertainty around supply chain and the COVID variants. By and large, Apple's September framework was above our forecast. We raise FQ4 revenue by ~2% to 81.4B. We note, our estimate includes a $3M hit to iPhone revenue and $1M hit to iPad revenue directly attributable to supply chain headwinds. Adjusting for the headwinds, our revenue forecast would have increased by ~6% compared to our prior forecast. In addition to positive revenue revisions, we raise our FQ4 gross margin and EPS to reflect leverage from better revenue and mix. Our GM est of 42% is 170bps better than our prior forecast while FQ4 EPS of $1.15 is almost 10% above our prior forecast.

"Core" Apple valuation increased 6% to reflect higher EPS estimates

We are raising our value for "Core" Apple by ~6% to $161 from $152 to reflect higher CY22/CY23 EPS estimates. Our sum-of-the parts methodology is unchanged. Our new 12 month price target of $175 reflects a value for Apple's "Core" of ~$161 (from $152) plus an evenly-weighted probability value of Apple's auto opportunity ($14/shr). Our new "Core" value of $161 is derived by applying 28x (unchanged) to our average CY22/ CY23 EPS estimate of $5.77 vs our our $5.42 estimate.

Figure 1: "Core" Apple prior $152 PT derivation

"CORE" APPLE: P/E DERIVATION	AAPL-US
CAGR revenue growth in period	5.00%
CAGR net income growth in period	5.75%
CAGR net income growth stable period	2.00%
Risk free rate (avg trailing 3 mo 10 year yield)	1.50%
Beta (1)	1.00
Equity risk premium	5.50%
Cost of Equity (CAPM)	7.0%
Projected P/E multiple (CAPM)	**28x**
VALUATION ANALYSIS:	
CY 22/23 EPS	**$ 5.42**
Times: Projected P/E multiple (CAPM)	28x

Source : UBS estimates

Figure 2: New "Core" Apple $161 PT derivation

"CORE" APPLE: P/E DERIVATION	AAPL-US
CAGR revenue growth in period	5.00%
CAGR net income growth in period	5.75%
CAGR net income growth stable period	2.00%
Risk free rate (avg trailing 3 mo 10 year yield)	1.50%
Beta (1)	1.00
Equity risk premium	5.50%
Cost of Equity (CAPM)	7.0%
Projected P/E multiple (CAPM)	**28x**
VALUATION ANALYSIS:	
CY 22/23 EPS	**$ 5.77**
Times: Projected P/E multiple (CAPM)	28x

Source : UBS estimate

Figure 3: New Price Target

New		Avg CY22/CY23
Average CY22/CY23 EPS	$	5.77
Apple Core Business Multiple		~28x
Apple Core Business Price Target	$	161
Apple Auto Opportunity	$	14
Apple Price Target	**$**	**175**

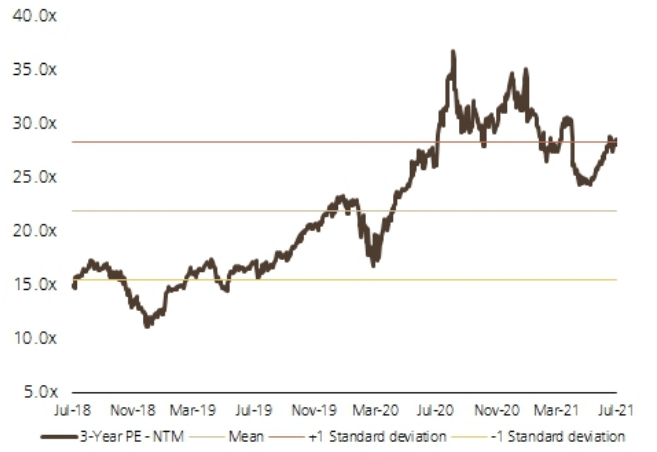
Source : UBS Estimates

Figure 4: Old Price Target

Old		Avg CY22/CY23
Average CY22/CY23 EPS	$	5.42
Apple Core Business Multiple		~28x
Apple Core Business Price Target	$	152
Apple Auto Opportunity	$	14
Apple Price Target	**$**	**166**

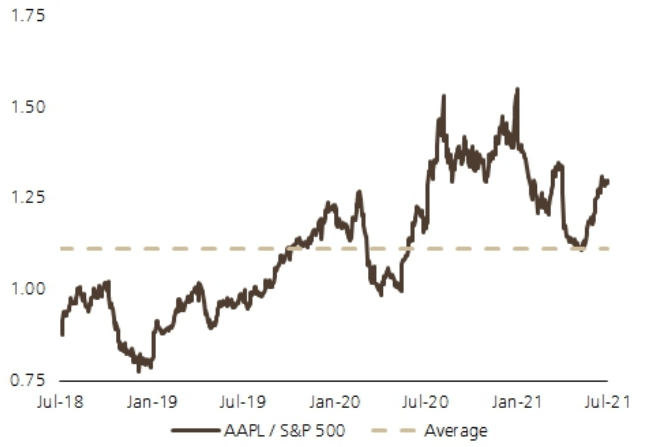
Source : UBS Estimates

Figure 5: Apple trailing 3-year NTM P/E



Source : Bloomberg

Figure 6: Apple relative 3-year NTM P/E



Source : Bloomberg

Figure 7: Apple fiscal 3Q variance summary

May not add due to rounding FY Ends: September (in US$ millions, except units & per share amounts)	Actual June 2020A	UBS Estimate June 2021E	Actual June 2021A	FY 3Q:21A Better / (Worse)	FY 3Q:21A Better / (Worse)
Product Net Sales:					
iPhone	$ 26,418	$ 36,284	$ 39,570	$ 3,286	9.1%
Mac	7,079	7,788	8,235	447	5.7%
iPad	6,582	6,742	7,368	626	9.3%
Wearables, Home and Accessories *	6,450	7,510	8,775	1,265	16.8%
Services	13,156	16,344	17,486	1,142	7.0%
Total net sales	$ 59,685	$ 74,668	$ 81,434	$ 6,766	9.1%
Yr-to-Yr percent growth	10.9%	25.1%	36.4%	11.3%	
Gross margin	22,680	31,100	35,255	4,155	13.4%
Gross margin %	38.0%	41.7%	43.3%	1.6%	
Research and development	4,758	5,591	5,717	126	2.3%
Selling, general and administrative	4,831	5,676	5,412	(264)	-4.7%
Operating expenses	9,589	11,267	11,129	(138)	-1.2%
Operating income	13,091	19,833	24,126	4,293	21.6%
Operating margin %	21.9%	26.6%	29.6%	3.1%	
Other income and expense, net	(46)	(80)	(243)	(163)	202.9%
Income before taxes (non-GAAP)	13,137	19,914	24,369	4,456	22.4%
Income taxes	1,884	2,887	2,625	(262)	-9.1%
Income tax rate	14.3%	14.5%	10.8%	-3.7%	
Net income	$ 11,253	$ 17,026	$ 21,744	$ 4,718	27.7%
Diluted EPS	$ 0.65	$ 1.01	$ 1.30	$ 0.28	28.0%
Diluted shares outstanding	17,419	16,815	16,782	(33)	-0.2%
Expense and margin summary:					
Product gross margin	29.7%	34.0%	36.0%	2.1%	
Services gross margin	67.2%	69.0%	69.8%	0.8%	
Research and development (% of net revenue)	8.0%	7.5%	7.0%	-0.5%	
Selling, general and administrative (% of net revenue)	8.1%	7.6%	6.6%	-1.0%	
Operating expenses	16.1%	15.1%	13.7%	-1.4%	
iPhone Data:					
Revenue	$ 26,418	$ 36,284	$ 39,570	$ 3,286	9.1%

Source : Company reports and UBS research estimates

Figure 8: Raising FY21, FY22 and FY23 revenue and EPS estimates

* May not add due to rounding
FY Ends: September
(in US$ millions, except units & per share amounts)

	FY 2021E			FY 2022E			FY 2023E		
	Old	New	% Change	Old	New	% Change	Old	New	% Change
Product Net Sales:									
iPhone	$ 189,461	$ 192,747	1.7%	$ 190,542	$ 194,776	2.2%	$ 191,135	$ 195,382	2.2%
Mac	33,451	34,345	2.7%	30,726	31,961	4.0%	29,573	30,763	4.0%
iPad	29,592	30,831	4.2%	26,523	28,454	7.3%	24,995	26,841	7.4%
Wearables, Home and Accessories	37,139	38,533	3.8%	43,188	46,047	6.6%	49,164	53,317	8.4%
Services	66,124	67,297	1.8%	74,020	74,342	0.4%	80,299	80,878	0.7%
Total net sales	$ 355,767	$ 363,752	2.2%	$ 364,998	$ 375,581	2.9%	$ 375,165	$ 387,182	3.2%
Yr-to-Yr percent growth	29.6%	32.5%		2.6%	3.3%		2.8%	3.1%	
Gross margin	145,748	151,805	4.2%	146,920	153,735	4.6%	152,153	158,916	4.4%
Gross margin %	41.0%	41.7%	0.8%	40.3%	40.9%	0.7%	40.6%	41.0%	0.5%
Operating income	101,710	107,905	6.1%	99,799	106,762	7.0%	101,734	108,655	6.8%
Operating margin %	28.6%	29.7%	1.1%	27.3%	28.4%	1.1%	27.1%	28.1%	0.9%
Other income and expense, net	(730)	(837)		(330)	(445)		(579)	405	
Net income	$ 86,998	$ 93,267	7.2%	$ 85,109	$ 91,126	7.1%	$ 86,966	$ 92,012	5.8%
				-	-		-	-	
Diluted EPS	$ 5.15	$ 5.53	7.3%	$ 5.20	$ 5.57	7.2%	$ 5.43	$ 5.78	6.4%
iPhone Units	227,000	229,000	0.9%	225,000	230,000	2.2%	225,000	230,000	2.2%
iPhone ASP	$ 834.63	$ 841.69	0.8%	$ 846.85	$ 846.85	0.0%	$ 849.49	$ 849.49	0.0%

Source : Company reports and UBS research estimates

UPSIDE/DOWNSIDE SPECTRUM

Value drivers	Revenue Growth	Gross Margin %	Operating Income Growth	Operating Margin %	Diluted EPS
$190 upside	6.7%	41.5%	6.1%	29.5%	$5.97
$175 base	3.3%	40.9%	-1.1%	28.4%	$5.57
$120 downside	-0.2%	40.0%	-9.1%	27.0%	$5.12

Source : UBS research

UPSIDE (US $190): Our $190 upside scenario implies roughly a ~32x multiple to our upside FY2022 EPS estimate of $5.97. In our upside case, we model 235 million iPhones in FY22, ~1% above consensus and ~2% above our estimates driven by stronger adoption of the 5G enabled iPhones than anticipated. In addition, stronger iPhone units drive not only iPhone revenue upside but also Services growth above our forecast while gross margin and operating margin improve with higher iPhone mix.

BASE (US $175): Our base case scenario implies solid iPhone demand the next two years given lack of a 'super cycle' this year. Given stable FY22 iPhone demand, Apple's ~28x P/E multiple is maintained over the next twelve months valuing the "Core" Apple business at~$161. Utilizing a probability weighted DCF analysis, we assign $14 in value per share for Apple's BEV optionality to arrive at our $175 price target. "Core" gross margin and operating margin deteriorate slightly YoY due to lower iPhone sales and continued investments.

DOWNSIDE (US $120): Our downside case of $120 in 12 months is driven by FY22 EPS of $5.12 with lower iPhone units in both years. Revenue is down 0.2% in FY22 as lower iPhone sales also modesty hurts Services growth. In addition, Apple reduces AppStore fees further impacting Services growth and margins. Operating margins compress as the company invests in R&D ahead of future product launches. Investors don't assign value to BEV opportunity resulting in Apple's P/E multiple declining to roughly 23x, roughly 1 standard deviation below Apple's trailing one-year NTM P/E analysis.

Forecast returns

Forecast price appreciation	+19.2%
Forecast dividend yield	0.7%
Forecast stock return	+19.9%
Market return assumption	5.2%
Forecast excess return	+14.7%

Company Description

Apple designs, manufactures and markets mobile products, personal computers and media devices. The company's primary hardware product categories include the iPhone, iPad, iPod, and Mac computers. In addition, the company sells a variety of related software, services, peripherals, and third-party digital content and applications via iTunes and the App Store. Apple predominately sells to the consumer segment through its own online and retail stores, as well as third-party cellular network carriers, wholesalers and retailers.

Valuation Method and Risk Statement

Risks to our Apple thesis include (1) product delays or less innovative offerings, particularly a decline in iPhone unit shipments in F21; (2) macro weakness dampening product demand, especially in China; (3) reduced product differentiation resulting in a successful smartphone attack from below; (4) governments looking to regulate Apple as its power increases; and (5) poor platform management. We use a combination of P/E and a sum-of-the-parts analysis assigning a 50/50 probability for the BEV opportunity to derive our price target for Apple.

Required Disclosures

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12-Month Rating	Definition	Coverage[1]	IB Services[2]
Buy	FSR is > 6% above the MRA.	53%	32%
Neutral	FSR is between -6% and 6% of the MRA.	36%	30%
Sell	FSR is > 6% below the MRA.	11%	21%
Short-Term Rating	**Definition**	**Coverage[3]**	**IB Services[4]**
Buy	Stock price expected to rise within three months from the time the rating was assigned because of a specific catalyst or event.	<1%	<1%
Sell	Stock price expected to fall within three months from the time the rating was assigned because of a specific catalyst or event.	<1%	<1%

Source: UBS. Rating allocations are as of 30 June 2021.
1:Percentage of companies under coverage globally within the 12-month rating category.
2:Percentage of companies within the 12-month rating category for which investment banking (IB) services were provided within the past 12 months.
3:Percentage of companies under coverage globally within the Short-Term rating category.
4:Percentage of companies within the Short-Term rating category for which investment banking (IB) services were provided within the past 12 months.

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UBS Securities LLC: Andrew Spinola, David Vogt, Kevin Dolan, Munjal Shah.

Company Disclosures

Company Name	Reuters	12-month rating	Price	Price date
Apple Inc.[16,6,7]	AAPL.O	Buy	US$146.77	27 Jul 2021

Source: UBS. All prices as of local market close.
Ratings in this table are the most current published ratings prior to this report. They may be more recent than the stock pricing date.

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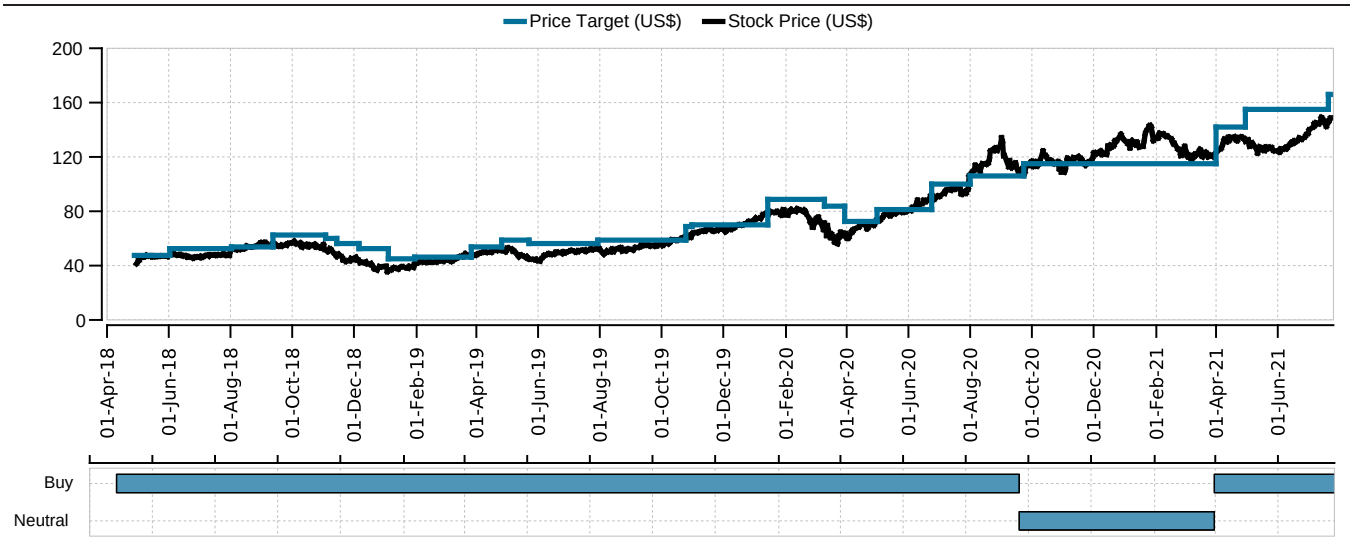
Apple Inc. (US$)



Date	Stock Price (US$)	Price Target (US$)	Rating
2018-04-27	40.58	47.50	Buy
2018-06-01	47.56	52.50	Buy
2018-08-01	50.38	53.75	Buy
2018-09-11	55.96	62.50	Buy
2018-11-02	51.87	60.00	Buy
2018-11-13	48.06	56.25	Buy
2018-12-05	44.17	52.50	Buy
2019-01-03	35.55	45.00	Buy
2019-01-29	38.67	46.25	Buy
2019-03-26	46.70	53.75	Buy
2019-04-25	51.32	58.75	Buy
2019-05-22	45.70	56.25	Buy
2019-07-29	52.42	58.75	Buy
2019-10-24	60.90	68.75	Buy
2019-10-30	60.82	70.00	Buy
2020-01-13	79.24	88.75	Buy

Date	Stock Price (US$)	Price Target (US$)	Rating
2020-03-09	66.54	83.75	Buy
2020-03-29	61.94	72.50	Buy
2020-04-30	73.45	81.25	Buy
2020-06-23	91.63	100.00	Buy
2020-07-31	106.26	106.00	Buy
2020-09-22	111.81	115.00	Neutral
2021-03-31	122.15	142.00	Buy
2021-04-29	133.48	155.00	Buy
2021-07-20	146.15	166.00	Buy

Source: UBS; as of 27-Jul-2021

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COEX-8.27

YouTube Music and YouTube Premium officially launch in US, Canada, UK, and other countries

theverge.com/2018/6/18/17475122/youtube-music-premium-launch-us-canada-uk

Dani Deahl June 18, 2018

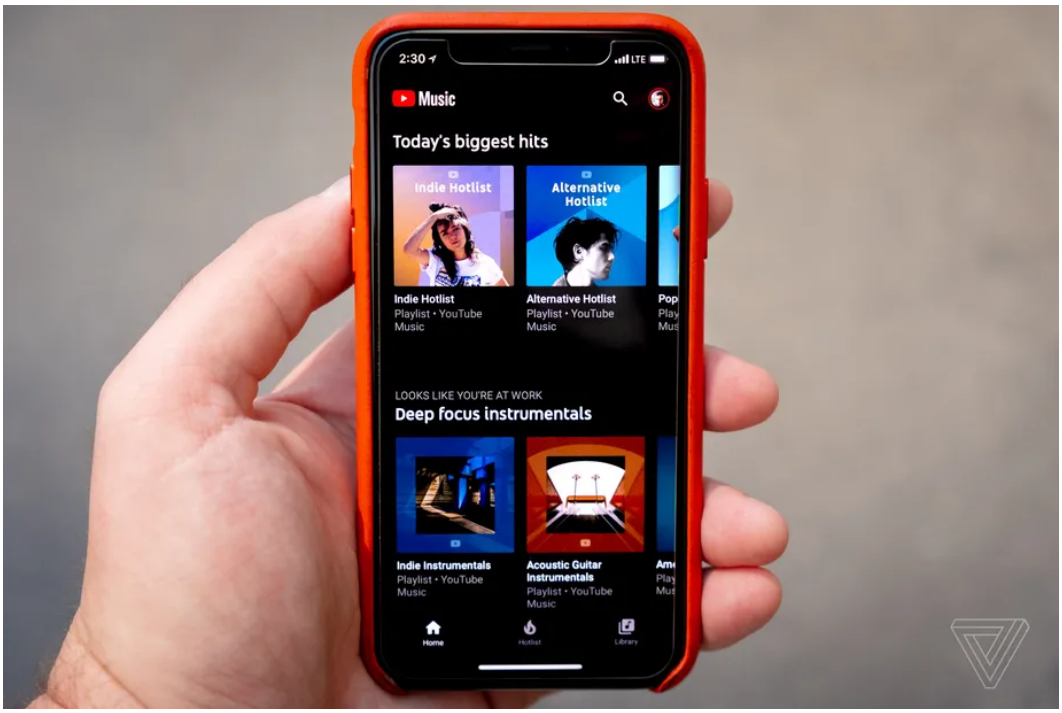


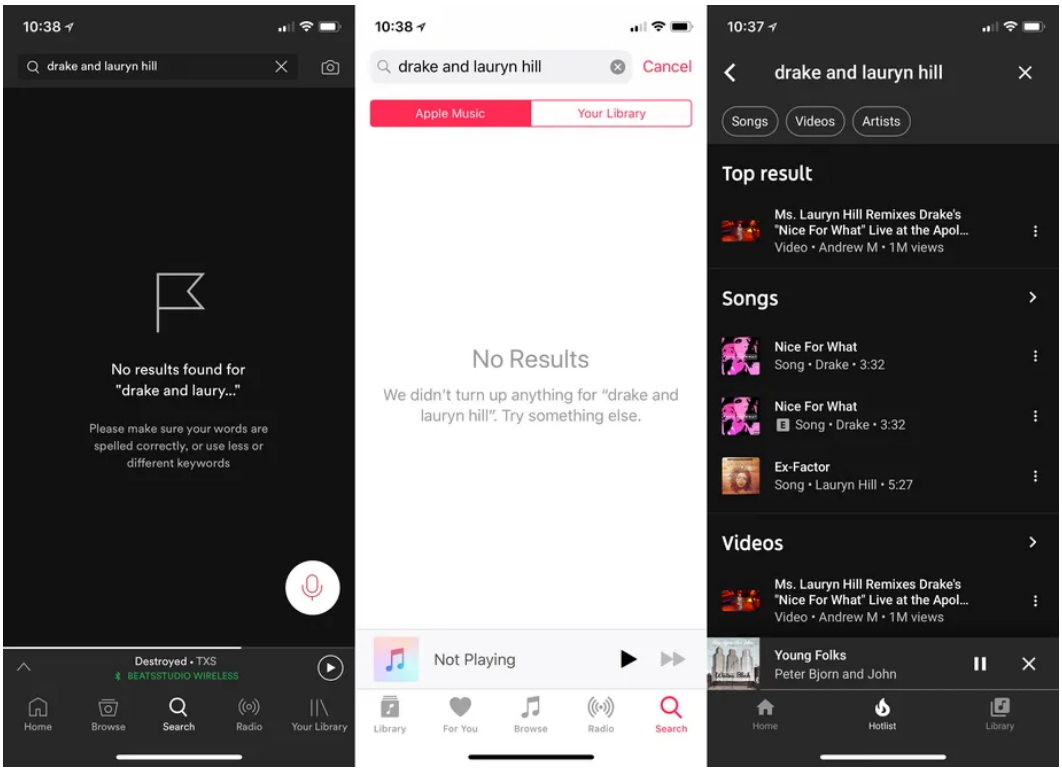
Photo by Chris Welch / The Verge

YouTube Music and YouTube Premium have officially launched today in 17 countries. As of today, both services are available to all in the US, Australia, New Zealand, Mexico, South Korea, Austria, Canada, Finland, France, Germany, Ireland, Italy, Norway, Russia, Spain, Sweden, and the United Kingdom. YouTube Music began a soft rollout to some users late last month, but now anyone can try it.

Related

YouTube Music finally gets it right

YouTube Music is the company's new, all-encompassing music streaming service, and it comes with both "a reimagined mobile app" and a new desktop interface designed specifically for music. It features traditional, album versions of songs as well as live performances, tracks from unsigned artists, remixes, covers, and more. It focuses on music discovery, and the home screen will continually serve new recommendations based upon your listening history, location, and activity. It also has intelligent search powered by machine learning, so it can understand and return the right results for queries that Spotify and Apple Music stumble on.



Like other music streaming services, YouTube Music comes with free and premium tiers. The free version is ad-supported, while ad-free YouTube Music Premium is $9.99 a month and allows for background listening (for audio tracks only) and downloads.

YouTube Premium is slightly higher at $11.99 per month, but it includes everything YouTube Music offers plus background listening for videos and an ad-free experience across all content on YouTube. It also includes access to YouTube Originals, which includes *Cobra Kai*, *Impulse*, soccer documentary *F2 Finding Football,* and *The Sidemen Show.* They're not much of a selling point right now, butGoogle says options for Originals will expand in the future with "bigger original series and movies," including comedies, dramas, reality series, and action-adventure shows from the UK, France, Mexico, and other countries.

Anyone who already has a Google Play Music subscription in the US, Australia, New Zealand, or Mexico will get access to YouTube Premium as part of their membership. Those with Google Play Music subscriptions in other countries will get access to YouTube Music Premium at their current price as it becomes available.

In an efforts to get people to switch over, YouTube is offering a limited promotion where you can try out YouTube Music for free for three months.

Next Up In Tech

COEX-
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Google Play Music to shut down starting in September, will disappear by December

Sarah Perez
@sarahintampa / 10:26 AM EDT • August 5, 2020

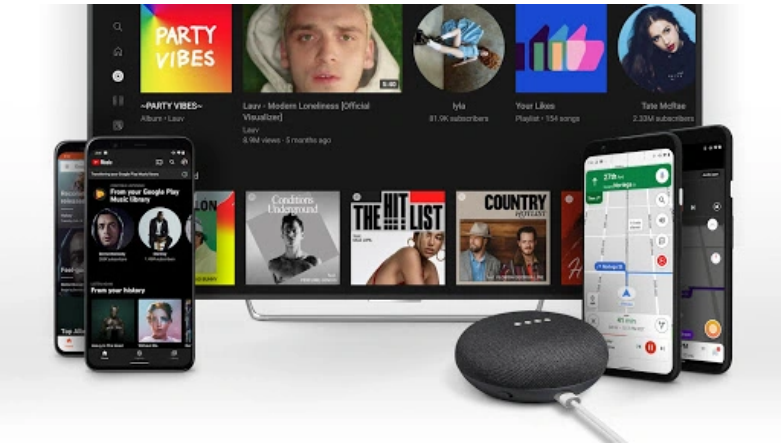

Image Credits: Google

Google's plans to wind down its Google Play Music service in favor of the company's newer YouTube Music have been known for some time. But Google this week has given users a deadline on making the switch. The company says YouTube Music will fully replace Google Play Music in December 2020, at which point Google Play Music users will no longer be able to stream from or otherwise use the Google Play Music app.

Though December is the final deadline for being able to export from the Google Play Music app, your ability to stream from the Google Play Music app will end before then.

In September 2020, users in New Zealand and South Africa will be the first to lose access to stream or use the Google Play Music app. The rest of the world will lose their access in October.

be able to export their playlists, uploads, purchases, likes and more to YouTube Music. Users also can use the Google Takeout service to export their data and download their purchased and uploaded music.

For those considering making a switch to a rival streaming service, like Spotify, there aren't official tools available, but there are third-party options, like Soundiiz, TuneMyMusic, MusConv and others.

Google says it will also be making changes to the Google Play store and Music Manager.

Starting this month, users will no longer be able to make purchases or pre-order music from Google Play Music through Music Manager, nor will they be able to upload and download music.

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The company has been preparing YouTube Music in advance of this shift to address complaints Google Play Music users had with earlier versions of the service. This year, Google increased playlist length from 1,000 to 5,000 songs and added support for uploads (up to 100,000 tracks — 50,000 more than on Google Play Music). It has also rolled out offline listening, lyrics and an Explore tab for discovery, and a tool for transferring podcast subscriptions and episode progress to Google Podcasts.

YouTube Music offers a variety of playlist options now, too, including collaborative playlists built with friends and new programmed playlists built by editors. Assistive technology now also makes personalized suggestions of what to add when you're building a YouTube Music playlist.

Assistant in recent days.

For any user who doesn't opt to move to YouTube Music, Google says subscriptions will be automatically canceled.

Google's strategy with music has been overly complicated for some time (not unlike its strategy with messaging and communication apps). When users signed up for YouTube Premium (previously YouTube Red), they'd automatically receive access to Google Play Music, and vice versa. And Google continued to sell YouTube Music as a separate subscription. In other words, Google created a world where it wasn't only competing against big streaming services like Apple Music, Spotify and Pandora, it was also competing against itself.

Now it's hoping to shift its streamers to YouTube Music. The idea came about because YouTube for a long time has been a way to access free music, thanks to a deep catalog of officially licensed music videos, live performances and other music content. So why not upsell YouTube's freeloading music fans on an ad-free, upgraded music experience? That strategy may have worked to some extent, but it's more recently being challenged. Last week, Facebook announced deals with record labels to make music videos free on its platform, as well. If user behavior shifts as a result, YouTube's ability to funnel free music fans into a premium product could be impacted, too.

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Reid Hoffman on the evolution of 'blitzscaling' amid the pandemic

Natasha Mascarenhas
2:30 PM EDT • October 1, 2021

How four-person startup Luminopia is using TV to treat lazy eye

Emma Betuel
2:12 PM EDT • October 1, 2021

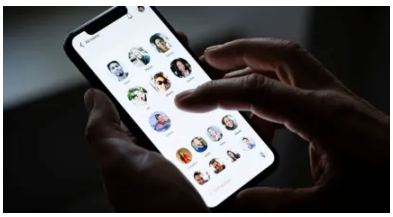
We don't just need an AV revolution — we need a design evolution

Matthew Lipka, Bob de Kruyff, Bert Kaufman
1:48 PM EDT • October 1, 2021

ProductWind raises $1.67M to connect your brand with hundreds of influencers

Christine Hall

Clubhouse, Vimeo, DoubleVerify and others set to sign up to beefed-up disinformation code in the EU



Natasha Lomas

12:54 PM EDT • October 1, 2021

Chief Blue Origin complaint author disputes cause of termination, while the space company's CEO does damage control

Aria Alamalhodaei

12:09 PM EDT • October 1, 2021

Al Gore puts $600M into UK Green energy-tech startup Octopus Energy Group

Mike Butcher

12:05 PM EDT • October 1, 2021

Last day for early-bird savings on TC Sessions: SaaS 2021

Alexandra Ames

12:00 PM EDT • October 1, 2021

AutoLeap drives technology for car repair shops with new $18M capital infusion

Christine Hall

12:00 PM EDT • October 1, 2021

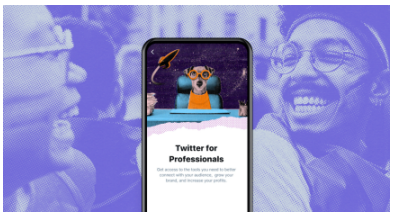
12:00 PM EDT • October 1, 2021

Startups have more options than ever to lower their reliance on venture capital

Alex Wilhelm, Anna Heim

10:40 AM EDT • October 1, 2021

Twitter for Professionals will begin to roll out this week for businesses and creators



Amanda Silberling

10:30 AM EDT • October 1, 2021

Vareto raises $24M from GV, Menlo and all-star angels to reinvent financial planning for enterprises

Mary Ann Azevedo

10:30 AM EDT • October 1, 2021

10:18 AM EDT • October 1, 2021

Utopia Labs is building an operating system for DAOs

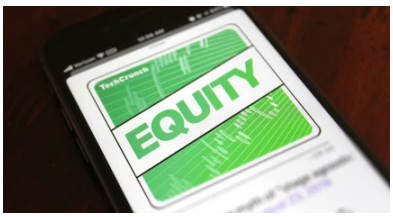
Matthew Panzarino

10:00 AM EDT • October 1, 2021

Here for influencer-branded mac and cheese

Alex Wilhelm, Natasha Mascarenhas, Mary Ann Azevedo

10:00 AM EDT • October 1, 2021



GM's US factories will switch to renewable energy five years ahead of schedule

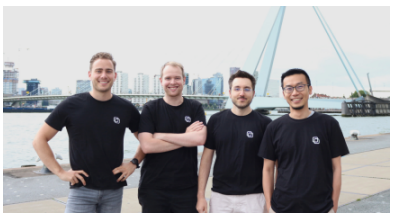
Steve Dent

9:52 AM EDT • October 1, 2021

Orchest raises $3.5M to provide a simpler way to build data pipelines

Christine Hall

9:00 AM EDT • October 1, 2021



All Day Kitchens wants to expand every independent restaurant's delivery network

Christine Hall

9:00 AM EDT • October 1, 2021

LeadIQ's rapid growth snags venture attention as sales software market stays hot

Alex Wilhelm

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May 2, 2018

Dear Shareholders,

Today Spotify is reporting results for the first fiscal quarter of 2018 ending March 31, 2018.

We finished the quarter with 170 million Monthly Active Users ("MAU") and 75 million Premium Subscribers, up 30% and 45%, respectively, Y/Y.

Total Revenue was €1,139 million growing 26% Y/Y, and 37% Y/Y after adjusting for the negative impact from changes in foreign exchange rates[1].

Gross Margin was 24.9% in Q1, above the high end of our guidance range of 23-24%. Excluding adjustments to prior period estimates primarily related to changes in rights holder liabilities booked in the quarter, we would have finished at the high end of our stated range. These adjustments accounted for approximately 124 basis points of Gross Margin in Q1.

Our Operating Loss was €41 million or approximately 4% of Total Revenue. This was also better than our guidance for the quarter, but was largely due to the flow through from the Gross Profit outperformance mentioned above. Operating expenses were in line with our expectations. Net cash flows from operating activities were €84 million, and Free Cash Flow was €74 million[1].

SUMMARY USER AND FINANCIAL METRICS

				% Change	
USERS (M)	**Q1 2017**	**Q4 2017**	**Q1 2018**	**Y/Y**	**Q/Q**
Total MAUs	131	157	170	30%	8%
Premium Subscribers	52	71	75	45%	7%
Ad-Supported MAUs	82	90	99	21%	9%
FINANCIALS (€M)					
Premium	828	1,018	1,037	25%	2%
Ad-Supported	74	130	102	38%	(22%)
Total Revenue	**902**	**1,149**	**1,139**	**26%**	**(1%)**
Gross Profit	105	282	283	169%	1%
Gross Margin	**11.7%**	**24.5%**	**24.9%**	**--**	**--**
Operating Loss	**(139)**	**(87)**	**(41)**	**71%**	**53%**
Operating Margin	(15.4%)	(7.6%)	(3.6%)	--	--
Net cash flows from operating activities	93	95	84	(10%)	(12%)
Free Cash Flow[1]	**64**	**75**	**74**	**16%**	**(1%)**

[1] Free Cash Flow and Revenue excluding foreign exchange effect are non-IFRS measures. See "Use of Non-IFRS Measures" and "Reconciliation of IFRS to Non-IFRS Results" for additional information.

FIRST QUARTER HIGHLIGHTS & RECENT DEVELOPMENTS

Direct Listing

On April 3, the ordinary shares of Spotify were listed for trading on the New York Stock Exchange. This is our first interim report as a public company. Investor information can be found on our IR website (investors.spotify.com).

Personalized Discovery: All-New Free Tier

On April 24, we officially unveiled a new Ad-Supported experience on Spotify. The updated user experience provides greater consumer control and an increased focus on curation and personalization. Ad-Supported users can now listen to any track in their top 15 Spotify curated playlists completely on-demand. Each user's on-demand experience will be completely based on their individual music consumption and preferences they list upon sign up. Additionally, we introduced Data Saver, a simple optimization switch users can activate so that less mobile data is used while streaming music.

Expanding Hulu Bundle

Following the success of the Hulu/Spotify Premium for Student bundle which launched in September 2017, we expanded that program in early April 2018 to offer a similar deal to our Standard Plan subscribers. Existing subscribers are eligible to upgrade to the $12.99 per month plan today, and the plan will be made available to new subscribers later this summer.

New Market Launches

On March 13, we launched service in four new markets: Israel, Romania, South Africa, and Vietnam. This brought our total footprint to 65 countries and territories, and marked our first entry into the African continent.

Cadillac Partnership

At the end of March, we announced an integration with Cadillac to provide drivers with a seamless listening experience akin to using the radio from the moment they enter their car. The vehicle connects to Spotify itself using a 4G LTE connection without the need to use your phone, cables, or a Bluetooth connection. All of the artists, albums, and personalized playlists you love are integrated into the car's infotainment system—you can even make Spotify playlists into presets the same way you would an FM radio station. Plus, the app is designed to deliver personalized recommendations specifically geared toward the drive.

Podcasts

During Q1 we entered into partnerships with several major podcast networks and aggregators which more than doubled the size of our catalog compared to Q4 2017. Consumption hours are rapidly increasing, and we plan to continue our investment into podcasts and other forms of spoken word content.

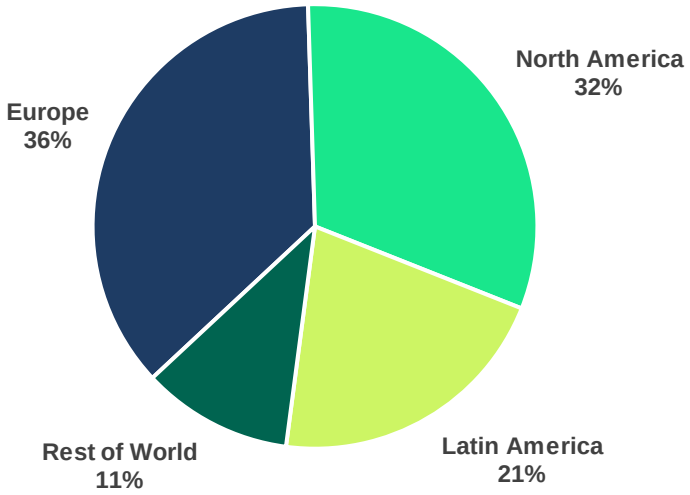
Growth of Global Recorded Music Market Accelerates
The International Federation of the Phonographic Industry ("IFPI") released its annual Global Music Report on April 24. IFPI reported that the global recorded music market was worth $17.3 billion in 2017, up 8.1% on 2016 marking the third consecutive year of growth for the industry. Much of that growth was again led by streaming where revenues grew 41.1% to $6.6 billion and now account for 38.4% of all recorded music revenue - the single biggest revenue source. Other key takeaways: paid subscription audio streams grew 45.5%, and there are now more than 176 million people paying for music subscriptions globally.

GRAMMY Best New Artist Party
This January, Spotify aligned with GRAMMY week to celebrate the second annual Best New Artist Party in New York City. All 5 featured nominees (Alessia Cara, Khalid, Julia Michaels, Lil Uzi Vert, and SZA) have been true partners to Spotify and have enjoyed growth and success in part attributable to the support we've provided both on and off the platform. In addition to the party, we also executed a large out-of-home campaign honoring the five nominees.

USER METRICS

We closed the quarter with 170 million monthly active users (up 30% Y/Y). Both Ad-Supported and Premium MAU were in line with our expectations and guidance range.

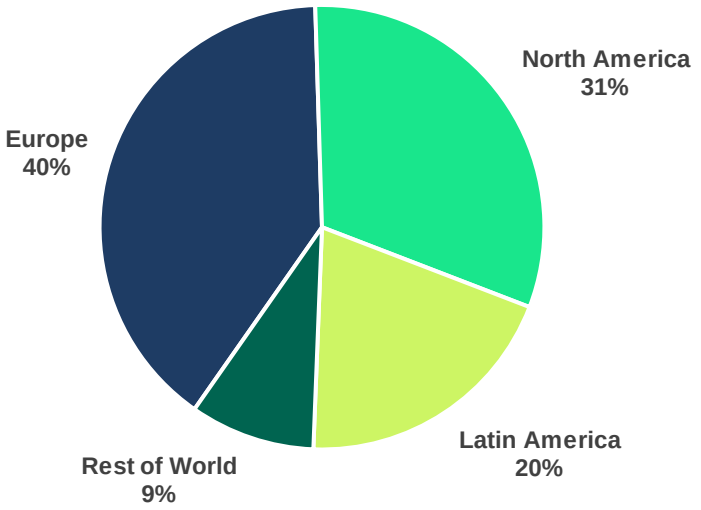
Total MAU by Region



Ad-Supported MAUs totaled 99 million at the end of Q1, up 21% Y/Y and 9% Q/Q. We continue to see strong growth in emerging markets, particularly Asia given our recent launches in Vietnam and Thailand, as well as increasing momentum in Japan.

Premium Subscribers grew to 75 million, up 45% Y/Y. Family Plan additions continued to be a source of strength. We also extended the length of our trial programs from 30 days to 60 days in certain key markets including the US, Australia, and Brazil, which we believe will have a positive effect on conversion and smooth some of the seasonal intake trends over time.

Subscribers by Region



Premium Churn was on trend in the quarter thanks to the continued popularity of the high retention Family and Student plans. While we don't plan to disclose Premium Churn on an ongoing basis, our average monthly Premium Churn rate for the quarter fell below 5%, a significant milestone. Greater penetration of our high retention products and a general maturation of our overall subscriber base should have a long-term downward impact on Premium Churn, mitigated somewhat by launches in new markets.

FINANCIAL METRICS

Revenue

Total revenue was €1,139 million this quarter, increasing 26% Y/Y. Foreign exchange rate movement was a significant headwind this quarter. Excluding the negative impact from foreign exchange rates, growth in revenue would have been 37% Y/Y.

Premium revenue was €1,037 million in Q1, up 25% Y/Y. Foreign exchange rates had a meaningful impact as Premium revenue would have been up 36% Y/Y if the negative impact were excluded. Average revenue per user ("ARPU") was €4.72 in Q1, down 14% Y/Y. Growth in Family and Student plans continues to weigh on ARPU, as does the shift in market mix as we grow faster in relatively lower ARPU geographies, like Latin America, and launch new markets. Changes in foreign exchange rates also contributed to the decline in ARPU. Excluding the impact of foreign exchange rates, ARPU would have been down 6% Y/Y.

Ad-Supported revenue was €102 million in Q1, up 38% Y/Y. Foreign exchange rates also had a substantial impact on advertising revenues due to the mix of US dollar denominated revenue. Adjusting for the impact of foreign exchange rates, Ad-Supported revenue would have grown 55% Y/Y.

The majority of our Ad-Supported revenue continues to be driven through our Direct channel, but growth in Programmatic continues to outperform our expectations nearly doubling Y/Y.

Ad spending continues to grow faster on our mobile platform, which comprises a majority of ad revenue. From a product perspective, video is our fastest growing source of revenue, while audio remains our largest source of revenue and continues to experience solid growth.

We launched a beta version of our self-serve advertising platform (Ad Studio) late last year. Hundreds of advertisers have successfully launched campaigns through the platform, and thousands more have signed up requesting access. While still small, early results have been encouraging, and we expect self-serve to become a significant portion of Ad-Supported revenue.

Gross Margin
Gross margin was 24.9% in Q1, up from 24.5% in Q4 and 11.7% in Q1 2017. We outperformed the high end of our guidance range primarily due to changes in prior period estimates for rights holder liabilities. These adjustments accounted for a gain of 124 bps in the quarter. We typically see a seasonal decline in gross margins of our business in Q1 and Q3 resulting from the costs of promotional campaigns we launch in Q2 and Q4 of each calendar year during which we typically experience fast subscriber growth. We expect Gross Margin to normalize to historical seasonal patterns for the remainder of the year.

Operating Expenses / Income (Loss)
Operating expenses totaled €324 million this quarter. As a percentage of revenue, operating expenses fell 140 bps year over year.

Total Operating Loss was €41 million. Operating Margin of 3.6% was an improvement of 1,180 bps Y/Y and 400 bps Q/Q.

As of March 31, we had 3,813 full-time employees and contractors globally. Research & Development made up the greatest share of hiring this quarter, accounting for almost half of the added headcount.

Free Cash Flow
We generated €84 million in Net cash flows from operating activities, and €74 million in Free Cash Flow in the first quarter. As we spoke about at our Investor Day on March 15, we have positive working capital dynamics, and our goal is to sustain and grow Free Cash Flow into the

near future excluding the impact of capital expenditures associated with the build out of new and existing offices in New York, London, Los Angeles, Stockholm, and Boston among others.

At the end of the quarter, we held €1.6 billion in cash and cash equivalents, restricted cash, and short-term investments.

OUTLOOK

These forward-looking statements reflect Spotify's expectations as of May 2, 2018 and are subject to substantial uncertainty. For the second quarter, we are expecting:

- **Total Monthly Active Users ("MAU")**: 175-180 million, up 28-32% Y/Y
- **Total Premium Subscribers:** 79-83 million, up 34-41% Y/Y
- **Total Revenue:** €1.1-€1.3 billion, up 10-29% Y/Y. This includes a negative impact of approximately €95 million from foreign exchange rates; excluding this impact, up 20-38% Y/Y
- **Gross Margin:** 24-26%
- **Operating loss:** €60-€140 million. This includes expenses related to the direct listing of €30-€35 million

Our expectations for the Full Year 2018 are unchanged. They are:

- **Total Monthly Active Users ("MAU")**: 198-208 million, up 26-32% Y/Y
- **Total Premium Subscribers:** 92-96 million, up 30-36% Y/Y
- **Total Revenue:** €4.9-€5.3 billion, up 20-30% Y/Y. This includes a negative impact of approximately €280 million from foreign exchange rates; excluding this impact, up 26-37% Y/Y
- **Gross Margin:** 23-25%
- **Operating loss:** €230-€330 million

EARNINGS QUESTION & ANSWER SESSION

The Company will be hosting a live question and answer session starting at 5 p.m. ET today on investors.spotify.com. Daniel Ek, our Co-Founder and CEO, and Barry McCarthy, our Chief Financial Officer, will be on hand to answer questions submitted to ir@spotify.com and through the live chat window available through the webcast. Participants may also join using the following listen-only conference line:

Participant Toll Free Dial-In Number: (866) 393-4306
Participant International Dial-In Number: (734) 385-2616
Conference ID 6066125

Contacts

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Paul Vogel
ir@spotify.com

Public Relations:
Graham James
press_internal@spotify.com

Use of Non IFRS Measures

This shareholder letter includes references to the non-IFRS financial measures of EBITDA and Free Cash Flow. Management believes that EBITDA and Free Cash Flow are important metrics because they present measures that approximate the amount of cash generated that is available to repay debt obligations, make investments, and for certain other activities that excludes certain infrequently occurring and/or non-cash items. However, these measures should be considered in addition to, not as a substitute for or superior to, net income, operating income, or other financial measures prepared in accordance with IFRS. This shareholder letter also includes references to the non-IFRS financial measures of Revenue excluding foreign exchange effect, Premium revenue excluding foreign exchange effect and Ad-Supported revenue excluding foreign exchange effect. Management believes that Revenue excluding foreign exchange effect, Premium revenue excluding foreign exchange effect and Ad-Supported revenue excluding foreign exchange effect are important metrics because they present measures that facilitate comparison to our historical performance. Revenue excluding foreign exchange effect, Premium revenue excluding foreign exchange effect and Ad-Supported revenue excluding foreign exchange effect excluding foreign exchange effect should be considered in addition to, not as a substitute for or superior to, Revenue, Premium revenue, Ad-Supported revenue or other financial measures prepared in accordance with IFRS.

Forward Looking Statements

We would like to caution you that this letter to shareholders contains “forward-looking statements” as defined in Section 27A of the United States Securities Act of 1933, as amended, and Section 21E of the United States Securities Exchange Act of 1934, as amended. We intend such forward-looking statements to be covered by the safe harbor provisions for forward-looking statements contained in the Private Securities Litigation Reform Act of 1995 and include this statement for purposes of complying with the safe harbor provisions. Such forward-looking statements involve significant risks, uncertainties and assumptions that could cause actual results to differ materially from our historical experience and our present expectations or projections, including but not limited to the following known material factors: our ability to attract prospective customers and to retain existing customers; our dependence upon third-party licenses for sound recordings and musical compositions; our ability to comply with the many complex license agreements to which we are a party; our ability to generate sufficient revenue to be profitable or to generate positive cash flow on a sustained basis; our lack of control over the providers of our content and their effect on our access to music and other content; our ability to accurately estimate the amounts payable under our license agreements; the limitations on our operating flexibility due to the minimum guarantees required under certain of our license agreements; our ability to obtain accurate and comprehensive information about music compositions in order to obtain necessary licenses or perform obligations under our existing license agreements; potential breaches of our security systems; risk associated with unauthorized access of our software and services and manipulation of stream counts and customer accounts; assertions by third parties of infringement or other violations by us of their intellectual property rights; risk associated with our substantial indebtedness; risks related to our status as a foreign private issuer; dilution resulting from additional share issuances; and the concentration of voting power among our founders who have and will continue to have substantial control over our business; tax-related risks; unanticipated changes relating to competitive factors in our industry; ability to hire and retain key personnel; changes in legislation or governmental regulations affecting us; international, national or local economic, social or political conditions; conditions in the credit markets; risks associated with accounting estimates, currency fluctuations and foreign exchange controls; and such other risks as set forth in our filings with the United States Securities and Exchange Commission.

We caution you not to place undue reliance on these forward-looking statements, which speak only as of the date hereof. We undertake no obligation to publicly update or revise any of our forward-looking statements after the date they are made, whether as a result of new information, future events or otherwise, except to the extent required by law.

Interim condensed consolidated statement of operations

(Unaudited)

(in € millions, except share and per share data)

	Three months ended		
	March 31, 2018	December 31, 2017	March 31, 2017
Revenue	1,139	1,149	902
Cost of revenue	856	867	797
Gross profit	**283**	**282**	**105**
Research and development	115	123	80
Sales and marketing	138	173	110
General and administrative	71	73	54
	324	**369**	**244**
Operating loss	**(41)**	**(87)**	**(139)**
Finance income	15	36	27
Finance costs	(154)	(545)	(62)
Share in earnings of associate	—	—	2
Finance income/(costs) - net	**(139)**	**(509)**	**(33)**
Loss before tax	**(180)**	**(596)**	**(172)**
Income tax (benefit) expense	(11)	—	1
Net loss attributable to owners of the parent	**(169)**	**(596)**	**(173)**
Net loss per share attributable to owners of the parent			
Basic and diluted	(1.01)	(3.87)	(1.15)
Weighted-average ordinary shares outstanding			
Basic and diluted	167,778,952	154,126,524	150,149,327

Interim condensed consolidated statement of financial position

(in € millions)

	March 31, 2018 (Unaudited)	December 31, 2017
Assets		
Non-current assets		
Property and equipment	68	73
Intangible assets including goodwill	161	162
Investment in associate	1	1
Long term investments	968	910
Restricted cash	56	54
Deferred tax assets	10	9
	1,264	**1,209**
Current assets		
Trade and other receivables	322	360
Income tax receivable	1	—
Short term investments	843	1,032
Cash and cash equivalents	733	477
Other current assets	39	29
	1,938	**1,898**
Total assets	**3,202**	**3,107**
Equity and liabilities		
Equity		
Share capital	—	—
Other paid in capital	2,531	2,488
Other reserves	226	177
Accumulated deficit	(2,596)	(2,427)
Equity attributable to owners of parent	**161**	**238**
Non-current liabilities		
Convertible notes	1,022	944
Accrued expenses and other liabilities	61	56
Provisions	7	6
Deferred tax liabilities	3	3
	1,093	**1,009**
Current liabilities		
Trade and other payables	360	341
Income tax payable	4	9
Deferred revenue	223	216
Accrued expenses and other liabilities	889	881
Provisions	53	59
Derivative liabilities	419	354
	1,948	**1,860**
Total liabilities	**3,041**	**2,869**
Total equity and liabilities	**3,202**	**3,107**

Interim condensed consolidated statement of cash flows

(Unaudited)
(in € millions)

	Three months ended		
	March 31, 2018	December 31, 2017	March 31, 2017
Operating activities			
Net loss	(169)	(596)	(173)
Adjustments to reconcile net loss to net cash flows			
Depreciation of property and equipment	9	11	12
Amortization of intangible assets	2	2	2
Share-based payments expense	18	14	14
Impairment loss on trade receivables	3	(1)	—
(Gain)/loss on disposal of equipment	(1)	1	—
Finance income	(15)	(36)	(27)
Finance costs	154	545	62
Income tax (benefit) expense	(11)	—	1
Share in earnings of associate	—	—	(2)
Net foreign exchange gains	(1)	(4)	—
Changes in working capital:			
Decrease/(increase) in trade receivables and other assets	15	(46)	(40)
Increase in trade and other liabilities	70	195	186
Increase in deferred revenue	9	43	9
(Decrease)/increase in provisions	(3)	(39)	44
Interest received	10	6	5
Net income tax paid	(6)	—	—
Net cash flows from operating activities	**84**	**95**	**93**
Investing activities			
Business combinations, net of cash acquired	—	(11)	(23)
Purchases of property and equipment	(6)	(21)	(1)
Proceeds from sales of equipment	1	—	—
Purchases of intangibles	(2)	(3)	(2)
Purchases of short term investments	(271)	(482)	(357)
Sales and maturities of short term investments	430	237	286
Transaction fees for long term investment	(9)	—	—
Change in restricted cash	(4)	1	(28)
Net cash flows used in investing activities	**139**	**(279)**	**(125)**
Financing activities			
Finance lease payments	—	—	(1)
Proceeds from issuance of ordinary shares	4	—	—
Proceeds from exercise of share options	39	7	17
Net cash flow from financing activities	**43**	**7**	**16**
Net increase/(decrease) in cash and cash equivalents	**266**	**(177)**	**(16)**
Cash and cash equivalents at beginning of the period	477	668	755
Net exchange losses on cash and cash equivalents	(10)	(14)	(4)
Cash and cash equivalents at December 31	**733**	**477**	**735**

Reconciliation of IFRS to Non-IFRS Results
(Unaudited)
(in € millions, except percentages)

	Three months ended	
	March 31, 2018	March 31, 2017
IFRS revenue	1,139	902
Foreign exchange effect on 2018 revenue using 2017 rates	100	
Revenue excluding foreign exchange effect - Ad-Supported	1,239	
IFRS revenue year-over-year change %	26%	
Revenue excluding foreign exchange effect year-over-year change %	37%	
IFRS Premium revenue	1,037	828
Foreign exchange effect on 2018 Premium revenue using 2017 rates	87	
Premium revenue excluding foreign exchange effect	1,124	
IFRS Premium revenue year-over-year change %	25%	
Premium revenue excluding foreign exchange effect year-over-year change %	36%	
IFRS Ad-Supported revenue	102	74
Foreign exchange effect on 2018 Ad-Supported revenue using 2017 rates	13	
Ad-Supported revenue excluding foreign exchange effect	115	
IFRS Ad-Supported revenue year-over-year change %	38%	
Ad-Supported revenue excluding foreign exchange effect year-over-year change %	55%	

EBITDA
(Unaudited)
(in € millions)

	Three months ended		
	March 31, 2018	December 31, 2017	March 31, 2017
Net loss attributable to owners of the parent	(169)	(596)	(173)
Finance (income)/costs - net	139	509	33
Income tax (benefit) expense	(11)	—	1
Depreciation and amortization	11	13	14
EBITDA	**(30)**	**(74)**	**(125)**

Free Cash Flow
(Unaudited)
(in € millions)

	Three months ended		
	March 31, 2018	December 31, 2017	March 31, 2017
Net cash flows from operating activities	84	95	93
Capital expenditures	(6)	(21)	(1)
Change in restricted cash	(4)	1	(28)
Free Cash Flow	**74**	**75**	**64**

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July 29, 2020

Dear Shareholders,

Our business performed well in Q2 and continues to operate at a high level despite the continuing uncertainty surrounding the COVID-19 pandemic. Excluding the impact of social charges related to the increase in our share price during Q2, all of our key metrics would have finished at or ahead of our expectations. Our liquidity position and Free Cash Flow remain strong, and we are encouraged with the underlying trends of the business.

SUMMARY USER AND FINANCIAL METRICS

				% Change	
USERS (M)	**Q2 2019**	**Q1 2020**	**Q2 2020**	**Y/Y**	**Q/Q**
Total Monthly Active Users ("MAUs")	232	286	299	29%	5%
Premium Subscribers	108	130	138	27%	6%
Ad-Supported MAUs	129	163	170	31%	4%
FINANCIALS (€M)					
Premium	1,502	1,700	1,758	17%	3%
Ad-Supported	165	148	131	(21%)	(11%)
Total Revenue	**1,667**	**1,848**	**1,889**	**13%**	**2%**
Gross Profit	434	472	479	10%	2%
Gross Margin	**26.0%**	**25.5%**	**25.4%**	**--**	**--**
Operating (Loss)/Income	**(3)**	**(17)**	**(167)**	**--**	**--**
Operating Margin	(0.2%)	(0.9%)	(8.8%)	--	--
Net cash flows (used in)/from operating activities	90	(9)	39	(57%)	--
Free Cash Flow[1]	**50**	**(21)**	**27**	**(46%)**	**--**

[1] Free Cash Flow is a non-IFRS measure. See "Use of Non-IFRS Measures" and "Reconciliation of IFRS to Non-IFRS Results" for additional information.

MONTHLY ACTIVE USERS ("MAUs")

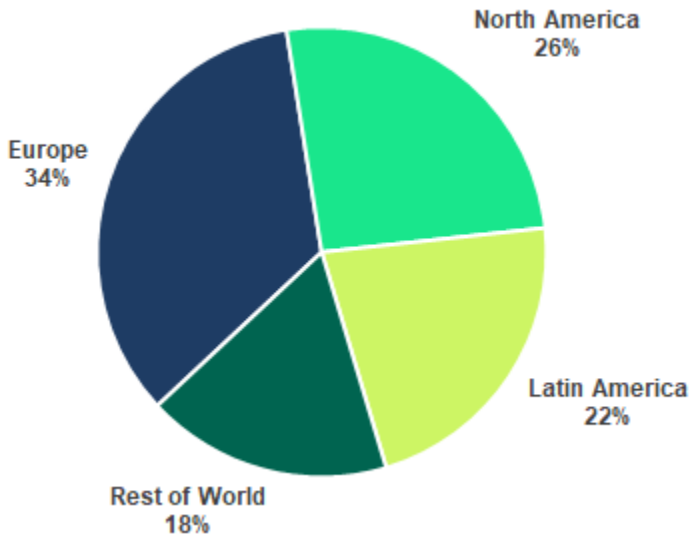
Total MAUs grew 29% Y/Y to 299 million, which is at the top of our guidance range.

Growth in North America exceeded our expectations, accelerating more than 200 bps this quarter relative to growth in Q2 last year. We saw retention continue to improve in Q2. This is on top of the gains we saw in North America throughout 2019. India also outperformed our forecast this quarter thanks to strong performance from marketing campaigns in the region. Latin America and Rest of World continue to see the fastest growth, with those regions growing 33% and 58% Y/Y, respectively.

Early in the quarter, we observed some COVID related softness in several countries across our emerging regions. Parts of Latin America and Rest of World saw slower than expected growth in April and May as we saw lower intake, an increase in churn, and increases in payment failures from our Premium users. Encouragingly, things rebounded significantly in June as we saw increased reactivations and a step down in churn. While we finished below forecast in aggregate across these regions, our strength in North America and other areas more than offset the slow start to the quarter. Additionally, we believe the improved momentum we saw in the back half of the quarter has continued into Q3 and we expect to hit our full year targets.

We noted last quarter that we began to see a modest impact on consumption hour trends driven by COVID. As of June 30, global consumption hours have recovered to pre-COVID levels. All regions have fully recovered with the exception of Latin America which is approximately 6% below peak levels prior to the global health crisis. Regions where the spread of COVID-19 appears to be slowing, including APAC and EU, have led the recovery in consumption. Consumption trends by platform are beginning to normalize as well; in-car listening at the end of the quarter was less than 10% below pre-COVID levels having recovered from a 50% decline at the trough in April.

Total MAUs by Region



PREMIUM SUBSCRIBERS

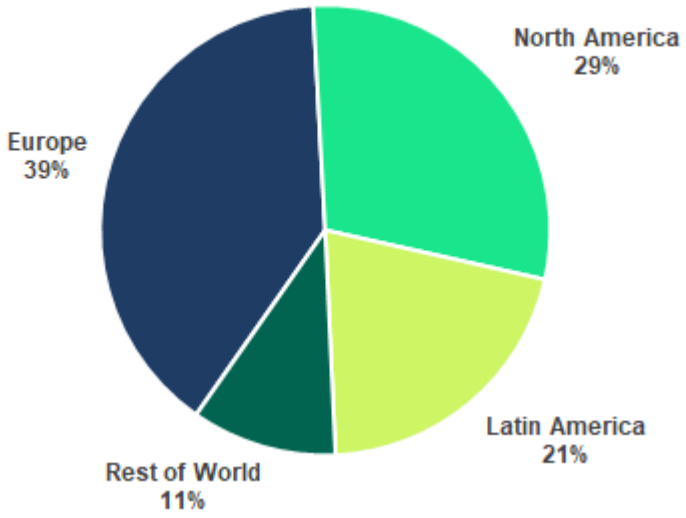
At the end of Q2'20 we had 138 million Premium Subscribers globally, up 27% Y/Y, which is at the top end of our guidance. Family Plan continues to be a significant driver of our outperformance. This quarter we expanded the availability of both Family Plan and our new Duo offering to new geographies. Following our launch in Russia and 12 surrounding markets on July 15th (post Q2), these multi-user plans are now available in 90+ territories globally. We saw strong subscriber growth across all regions in the quarter and finished ahead of our expectations.

Despite the ongoing uncertainty around COVID-19, we had our largest ever bi-annual campaign with strong gross additions in both the '3 months on us' intro offer for new users, as well as the win-back offer for returning customers. Other promotions and partnerships of note this quarter included the expansion of our Microsoft Xbox Game Pass relationship, and the launch of our TV app on Comcast's X1 set-top box. Following the success of last year's Xbox Game Pass holiday offer, we expanded the Microsoft partnership by making Spotify Premium available as a Perk for Xbox Game Pass Ultimate customers in seven markets: the US, UK, France, Brazil, Mexico, Australia, and Germany. Separately, the introduction of our TV app on Comcast's proprietary X1 set-top box marked the first integration with a pay-TV provider in the US, demonstrating continued progress against our ubiquity strategy.

Churn improved approximately 46 bps Y/Y, but ticked up approximately 8 bps sequentially. Our Y/Y churn improvement continues to be driven by the adoption of our higher retention offerings like Family & Student in addition to the overall maturity of our total subscriber base. Due to a shift in our trial offering cadence this year, we did see a bit more seasonality in churn in Q2 relative to years past. Our 3 Month Free trial offer was available until mid to late February in Q1,

which meant more subscribers than usual saw an end to their promotional offering in Q2. This led to a slight increase in churn Q/Q. However, this was expected and was in line with the forecast.

Subscribers by Region



FINANCIAL METRICS

Revenue

Total revenue of €1,889 million grew 13% Y/Y in Q2. Consolidated revenue was roughly in line with expectations. Premium revenue grew 17% Y/Y to €1,758 million (up 19% excluding the impact of FX rates), and performed in line with our forecast. We recognized a reduction to revenue of €14 million due to a change in prior period estimates that accounted for an additional 1% headwind. Ad-Supported revenue fell 21% Y/Y as a result of COVID-19, but was slightly above our expectations. The quarter started off particularly slow but improved steadily with momentum in June overcoming the weakness early on.

Within Premium, average revenue per user (“ARPU”) of €4.41 in Q2 was down 9% Y/Y (down 7% excluding the impact from FX rates). The reduction in revenue resulting from the change in prior period estimates mentioned above accounted for another 1% drag. Product mix was the dominant driver accounting for most of this decline.

While Ad-Supported revenue of €131 million was down both Y/Y and sequentially, we outperformed our forecast. Last quarter we noted a marked deceleration in sales brought on by the global health crisis where the last 3 weeks in March were down more than 20% relative to our forecast. Performance continued to lag our expectations through April and May, but we significantly outperformed expectations in the month of June. QTD through May, Ad-Supported revenues were down 25% Y/Y, but performance in the month of June showed significant

improvement and was only down 12% Y/Y. Our Direct and Programmatic channels were hit particularly hard, both declining double digits Y/Y. Conversely, both our Ad Studio and Podcast channels saw double digit growth and exceeded our forecast. Within Ad Studio (our self-service offering) we successfully rolled out video as a new product and expanded the platform out of beta into 22 markets as of June.

We continue to see positive growth in our Streaming Ad Insertion ("SAI") technology, which will be more widely available to US advertisers this summer. Our latest podcast advertising innovation involves In-App Offers powered by SAI, which resurfaces offers to podcast listeners with a visual reminder, allowing listeners to redeem offers in-app when the time is right for them.

Overall, podcast advertising outperformed in the quarter with momentum continuing into July. Additionally, we announced a $20 million advertising partnership with Omnicom Media Group which we believe is the largest global, strategic podcast advertising partnership to-date.

Gross Margin

Gross Margin finished at 25.4% in Q2 which both exceeded our expectations and finished above the high end of our guidance range. Gross Margin in the quarter was impacted by several "one-time" adjustments that when netted out, did benefit GM by 50 bps. Without these adjustments, GM would have finished modestly ahead of our expectations and at the higher end of guidance. We recognized efficiencies in Other CoR as streaming delivery costs were slightly more favorable relative to forecast. We do continue to invest in content and our spend this quarter was modestly higher than plan and had a slightly higher drag on GM than forecast.

Premium Gross Margin was 28.1% in Q2, down slightly from 28.3% in Q1, and up 60 bps Y/Y. Ad-Supported Gross Margin was (11.9)% in Q2, down from (6.6)% in Q1 and down 2,478 bps Y/Y. As a reminder, we now account for all content costs related to podcast investment in the Ad-Supported business.

Operating Expenses / Income (Loss)

Operating expenses totaled €646 million in Q2, an increase of 48% from Q2'19 and well above forecast. Core operating expenses grew slightly less than expected as certain marketing expenditures have been pushed to later in the year. Reported operating expense was significantly higher than forecast as a result of the accrual of higher than expected social charges related to the strong gains in our stock price during the quarter. Social Charges came in €126 million higher than planned. Roughly 62% of the variance in Social Charges pertained to the R&D function, while 23% of the variance was in S&M and the remainder in G&A. Excluding the higher than planned social charges, Operating Loss would have finished better than forecast as a result of both outperformance in Gross Profit and lower than planned operating expenses.

At the end of Q2, our workforce consisted of 6,049 FTEs globally.

Social Charges

As a reminder, social costs are payroll taxes associated with employee salaries and benefits, including share-based compensation that we are subject to in various countries in which we operate. When the fair market value of our ordinary shares increases on a quarter-to-quarter basis, the accrued expense for social costs will increase, and when the fair market value of ordinary shares falls, the accrued expense will become a reduction in social costs expense, all other things being equal, including the number of vested stock options and exercise price remaining constant. Additionally, approximately 31% of our employees are in Sweden. With respect to our employees in Sweden, we are required to pay a 31.42% tax to the Swedish government on the profit an employee realizes on the exercise of our stock options or the vesting of our restricted stock units.

Our guidance on the impact of social charges on operating expenses is based on our share price at the end of each quarter. At the Q2 close, our stock price was $258.19. As an example, in Q2 a 10% increase or decrease in FMV compared to the quarter-end price would have an approximate +/- €25M impact on Social Charges. We don't forecast stock price changes in our guidance so upward or downward movements will impact our reported operating expenses relative to our guidance.

Product and Platform

We continue to accelerate product innovation in order to enrich the consumer experience and serve the right content from the more than 60 million unique tracks and more than 1.5 million podcasts on our platform. Through experimentation, we aim to scale features that will lead to improved intake, retention, conversion, and thus higher LTV. For example, we rolled out lyrics this quarter in 26 countries across Southeast Asia, Latin America, and India covering more than 100 million of our users.

We continue to make improvements to our join flow and onboarding experience and have seen a demonstrable improvement to both short term and long term retention as a result. Once on the platform, we constantly add or improve features such as our recent announcement that we have removed the cap on the number of tracks a user can save, now offering the ability to save an unlimited number of songs, albums and podcasts to their collection of favorites (up from a max of 10,000 tracks previously).

With COVID-19 protective measures still in place, we launched a Listening Together microsite that visualizes when two Spotify listeners start to play the same song at the exact same time - which happens on average 30,000 times every second on Spotify. A further enhancement to the user experience, Spotify launched a Group Session feature that allows up to five Premium users to share control over the music being played. Group Session participants can control what's playing in real-time as well as contribute to a collaborative playlist for the group. Another product feature we're experimenting with is Canvas, which turns formerly static song pages into engaging video-art showcases with 8 second visual loops. Spotify users and artists can now share Canvas artwork to Instagram stories, a feature that is unique to the Spotify platform and sharing experience.

Ubiquity remains a core strategy, and we continue to find ways for consumers to seamlessly connect with our platform. This quarter we expanded our Spotify Free offering through Amazon Alexa devices beyond the US, Australia and New Zealand. Amazon Alexa devices will now support Spotify Free in Austria, Brazil, Canada, France, Germany, Ireland, Italy, Japan, Mexico, Spain and the UK. Additionally, we are also excited to be launching Spotify (Free and Premium) on Alexa in India.

Content

Last week we announced a multi-year global license agreement with the world's largest music company, Universal Music Group (UMG), that further aligns the companies' efforts to foster groundbreaking new features providing value for artists and great experiences for music fans. With this new agreement, the companies advance their industry-leading partnership, reflecting a shared commitment to music's continued growth, deeper music discovery experiences and collaboration on new, state-of-the-art marketing campaigns across Spotify's platform.

During Q2, we announced a multi-year exclusive licensing deal with The Joe Rogan Experience, which will debut on Spotify in September 2020 and become exclusive on the platform later this year. Additionally, we announced a multi-year partnership with Warner Bros. and DC to produce and distribute an original slate of narrative scripted podcasts exclusively on Spotify. We are excited about these partnerships and look forward to creating an unrivaled content experience for Spotify listeners.

Harry Potter at Home came to Spotify, an exclusive rendering of the Sorcerer's Stone as read by notable actors, including Daniel Radcliffe, Eddie Redmayne, and Whoopi Goldberg. This content release marks the first multi-market promotional campaign for an audio-story on Spotify. Harry Potter at Home quickly became our #1 O&E show on the platform.

Today, 21% of our Total MAUs engage with podcast content, up from 19% of MAUs in Q1 2020, and consumption continues to grow at triple digit rates Y/Y. We see strong MAU growth in podcast content across all regions for Spotify. Overall supply of new podcast content recovered in Q2 after a slight impact related to COVID-19 in the previous quarter. There have been a healthy number of releases for Catalog, as well as Spotify Originals within the quarter. We launched 110 podcast playlists across 6 markets (including 49 new O&E podcasts outside the US) on a variety of themes and topics to continue to drive podcast discovery for users. Currently, Spotify's podcast catalog has over 1.5 million shows, 50% of which launched in 2020. Our acquisition of Anchor last year has helped accelerate content growth on the platform with approximately three quarters of new podcast releases being powered by Anchor. Spotify announced an additional 9 exclusives like Do You See What I See and Rapot to our Creator Accelerator Program in Indonesia, launched our first original podcast, Search Engine Sex, in Australia, and released our first exclusive, XRey, in Spain.

As COVID-19 has impacted the creator community and the way in which users interact with Spotify, we created user experiences that allow listeners to adapt to the current environment.

Spotify launched an “At Home Music & Podcast Entertainment” hub, which has had over 20M unique visitors. Additionally, we created a “COVID-19 Guide” podcast hub to serve as a resource to those wanting to engage and understand more about COVID-19 related information and topics. As we mentioned last quarter, we launched the Spotify COVID-19 Music Relief project, through which we have partnered with organizations that offer financial relief to those in the music and creator community around the world. We pledged to match dollar-for-dollar public donations made to these organizations, up to a total Spotify contribution of $10 million. We also launched Artist Fundraising Pick (a feature that enables artists to raise money to support themselves, their bands, their crews and charitable organizations) in April, and to date have seen more than 91,000 artists take advantage.

Two-Sided Marketplace

We continue to build out our marketplace offering of tools and services. As stated above, we recently announced a multi-year deal with Universal Music Group and together, we look forward to accelerating our progress in building new tools and offerings that will make a difference for artists around the world. This is one more step in our goal to enable a million creators to live off their work.

The number of artists and their teams utilizing our Spotify for Artists tools on a monthly basis has grown to more than 690,000, growth of 68% Y/Y, and these creators are finding ways to unlock new channels for discovery. Growth in the number of artists making up our top tier (those accounting for the top 90% of streams) is accelerating; that cohort now stands at over 43,000 artists, up 43% from 30,000 one year ago. Our product and platform are driving discovery, diversifying taste, and helping up-and-coming artists reach new audiences. Gone are the days of Top 40, it’s now the Top 43,000. We continue to add new features to our suite of Marketplace products to better serve the needs of these creators and their teams. We also expanded our Sponsored Recommendation functionality to Canada this quarter, and look forward to launching in further markets soon. We also began piloting new targeting features in the Sponsored Recommendation product that allow for more flexibility to suit the unique needs of marketers. Conversion remains high, and the number of artists taking advantage of these features grew more than 37% Q/Q.

Free Cash Flow

Total Free Cash Flow was €27 million in Q2, a €23 million decrease Y/Y principally related to an increase in net loss adjusted for non-cash items, partially offset by favorable working capital movements and lower cash outflow for PP&E related to office build-outs. We maintain positive working capital dynamics overall and continue to expect that we will deliver positive Free Cash Flow for the year.

In addition to the positive Free Cash Flow dynamics, we maintain a strong liquidity position and are confident in the financial position of the business as we look at the current and future uncertainty surrounding the global health crisis. At the end of Q2, we had €1.8 billion in cash

and cash equivalents, restricted cash, and short term investments on our Balance Sheet, and no indebtedness[2].

Q3 & Q4 2020 OUTLOOK

These forward-looking statements reflect Spotify's expectations as of July 29, 2020 and are subject to substantial uncertainty. The estimates below utilize the same methodology we've used in prior quarters with respect to our guidance and the potential range of outcomes. Given the extraordinary operating circumstances we currently face with respect to the impact of COVID-19 there is a greater likelihood of variances within those ranges than typical quarters.

Q3 2020 Guidance:

- **Total MAUs**: 312-317 million
- **Total Premium Subscribers:** 140-144 million
- **Total Revenue:** €1.85-€2.05 billion
    - Assumes approximately 260 bps headwind to growth Y/Y due to movements in foreign exchange rates
- **Gross Margin:** 23.1-25.1%
- **Operating Profit/Loss:** €(70)-€(150) million

Q4 2020 Guidance:

- **Total MAUs**: 328-348 million
- **Total Premium Subscribers:** 146-153 million
- **Total Revenue:** €2.05-€2.25 billion
    - Assumes approximately 360 bps headwind to growth Y/Y due to movements in foreign exchange rates
- **Gross Margin:** 23.7-25.7%
- **Operating Profit/Loss:** €(45)-€(145) million

[2] As of June 30, 2020, we have no material outstanding indebtedness, other than lease liabilities recognized under IFRS 16.

EARNINGS QUESTION & ANSWER SESSION

We will host a live question and answer session starting at 8 a.m. ET today on investors.spotify.com. Daniel Ek, our Founder and CEO, and Paul Vogel, our Chief Financial Officer, will be on hand to answer questions submitted through slido.com using the event code **#SpotifyEarnings**. Participants also may join using the listen-only conference line by registering through the following site:

Direct Event Registration Portal: http://www.directeventreg.com/registration/event/2944914

We use investors.spotify.com and newsroom.spotify.com websites as well as other social media listed in the "Resources – Social Media" tab of our Investors website to disclose material company information.

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Use of Non-IFRS Measures

To supplement our interim condensed consolidated financial statements, which are prepared and presented in accordance with IFRS, we use the following non-IFRS financial measures: Revenue excluding foreign exchange effect, Premium revenue excluding foreign exchange effect, Ad-Supported revenue excluding foreign exchange effect, and Free Cash Flow. Management believes that Revenue excluding foreign exchange effect, Premium revenue excluding foreign exchange effect and Ad-Supported revenue excluding foreign exchange effect are useful to investors because they present measures that facilitate comparison to our historical performance. However, Revenue excluding foreign exchange effect, Premium revenue excluding foreign exchange effect and Ad-Supported revenue excluding foreign exchange effect should be considered in addition to, not as a substitute for or superior to, Revenue, Premium revenue, Ad-Supported revenue or other financial measures prepared in accordance with IFRS. Management believes that Free Cash Flow is useful to investors because it presents a measure that approximates the amount of cash generated that is available to repay debt obligations, to make investments, and for certain other activities that exclude certain infrequently occurring and/or non-cash items. However, Free Cash Flow should be considered in addition to, not as a substitute for or superior to, net cash flows (used in)/from operating activities or other financial measures prepared in accordance with IFRS. For more information on these non-IFRS financial measures, please see "Reconciliation of IFRS to Non-IFRS Results" table.

Forward Looking Statements

This shareholder letter contains estimates and forward-looking statements. All statements other than statements of historical fact are forward-looking statements. The words "may," "might," "will," "could," "would," "should," "expect," "plan," "anticipate," "intend," "seek," "believe," "estimate," "predict," "potential," "continue," "contemplate," "possible," and similar words are intended to identify estimates and forward-looking statements.

Our estimates and forward-looking statements are mainly based on our current expectations and estimates of future events and trends, which affect or may affect our businesses and operations. Although we believe that these estimates and forward-looking statements are based upon reasonable assumptions, they are subject to numerous risks and uncertainties and are made in light of information currently available to us. Many important factors may adversely affect our results as indicated in forward-looking statements. These factors include, but are not limited to: our ability to attract prospective users and to retain existing users; competition for users and user listening time; our dependence upon third-party licenses for most of the content we stream; our lack of control over the providers of our content and their effect on our access to music and other content; our ability to comply with the many complex license agreements to which we are a party; our ability to accurately estimate the amounts payable under our license agreements; the limitations on our operating flexibility due to the minimum guarantees required under certain of our license agreements; our ability to obtain accurate and comprehensive information about music compositions in order to obtain necessary licenses or perform obligations under our existing license agreements; new copyright legislation that may increase the cost and/or difficulty of music licensing; risks associated with our international expansion, including difficulties obtaining rights to stream content on favorable terms; our ability to generate sufficient

revenue to be profitable or to generate positive cash flow on a sustained basis; our ability to expand our operations to deliver content beyond music, including podcasts; potential breaches of our security systems; assertions by third parties of infringement or other violations by us of their intellectual property rights; our ability to accurately estimate our user metrics and other estimates; risks associated with manipulation of stream counts and user accounts and unauthorized access to our services; changes in legislation or governmental regulations affecting us; risks relating to privacy and protection of user data; our ability to maintain, protect, and enhance our brand; ability to hire and retain key personnel; risks relating to the acquisition, investment, and disposition of companies or technologies; tax-related risks; the concentration of voting power among our founders who have and will continue to have substantial control over our business; risks related to our status as a foreign private issuer; international, national or local economic, social or political conditions; and risks associated with accounting estimates, currency fluctuations and foreign exchange controls; and the impact of the COVID-19 pandemic on our business and operations, including any adverse impact on advertising revenue or subscriber acquisition and retention. A detailed discussion of these and other risks and uncertainties that could cause actual results and events to differ materially from our estimates and forward-looking statements is included in our filings with the U.S. Securities and Exchange Commission ("SEC"), including our Annual Report on Form 20-F filed with the SEC on February 12, 2020, as updated in our Form 6-K filed with the SEC on April 29, 2020 (containing the interim condensed consolidated financial statements for the three months ended March 31, 2020). We undertake no obligation to update forward-looking statements to reflect events or circumstances occurring after the date of this shareholder letter.

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Interim condensed consolidated statement of operations
(Unaudited)
(in € millions, except share and per share data)

	Three months ended			Six months ended	
	June 30, 2020	March 31, 2020	June 30, 2019	June 30, 2020	June 30, 2019
Revenue	1,889	1,848	1,667	3,737	3,178
Cost of revenue	1,410	1,376	1,233	2,786	2,371
Gross profit	**479**	**472**	**434**	**951**	**807**
Research and development	267	162	151	429	306
Sales and marketing	248	231	200	479	372
General and administrative	131	96	86	227	179
	646	**489**	**437**	**1,135**	**857**
Operating (loss)/income	**(167)**	**(17)**	**(3)**	**(184)**	**(50)**
Finance income	6	70	8	76	42
Finance costs	(294)	(12)	(64)	(306)	(220)
Finance income/(costs) - net	**(288)**	**58**	**(56)**	**(230)**	**(178)**
Loss before tax	**(455)**	**41**	**(59)**	**(414)**	**(228)**
Income tax (benefit)/expense	(99)	40	17	(59)	(10)
Net (loss)/income attributable to owners of the parent	**(356)**	**1**	**(76)**	**(355)**	**(218)**
(Loss)/Earnings per share attributable to owners of the parent					
Basic	(1.91)	0.00	(0.42)	(1.91)	(1.21)
Diluted	(1.91)	(0.20)	(0.42)	(1.91)	(1.21)
Weighted-average ordinary shares outstanding					
Basic	186,552,877	185,046,324	180,409,115	185,799,600	180,510,763
Diluted	186,552,877	185,632,113	180,409,115	185,799,600	180,510,763

COEX-
8.31

Condensed consolidated statement of financial position
(Unaudited)
(in € millions)

	June 30, 2020	December 31, 2019
Assets		
Non-current assets		
Lease right-of-use assets	476	489
Property and equipment	287	291
Goodwill	617	478
Intangible assets	86	58
Long term investments	1,725	1,497
Restricted cash and other non-current assets	66	69
Deferred tax assets	13	9
	3,270	**2,891**
Current assets		
Trade and other receivables	361	402
Income tax receivable	4	4
Short term investments	636	692
Cash and cash equivalents	1,148	1,065
Other current assets	115	68
	2,264	**2,231**
Total assets	**5,534**	**5,122**
Equity and liabilities		
Equity		
Share capital	—	—
Other paid in capital	4,175	4,192
Treasury shares	(175)	(370)
Other reserves	1,187	924
Accumulated deficit	(3,064)	(2,709)
Equity attributable to owners of the parent	**2,123**	**2,037**
Non-current liabilities		
Lease liabilities	612	622
Accrued expenses and other liabilities	37	20
Provisions	2	2
Deferred tax liabilities	1	2
	652	**646**
Current liabilities		
Trade and other payables	555	549
Income tax payable	4	9
Deferred revenue	349	319
Accrued expenses and other liabilities	1,527	1,438
Provisions	12	13
Derivative liabilities	312	111
	2,759	**2,439**
Total liabilities	**3,411**	**3,085**
Total equity and liabilities	**5,534**	**5,122**

Interim condensed consolidated statement of cash flows
(Unaudited)
(in € millions)

	Three months ended			Six months ended	
	June 30, 2020	March 31, 2020	June 30, 2019	June 30, 2020	June 30, 2019
Operating activities					
Net (loss)/income	(356)	1	(76)	(355)	(218)
Adjustments to reconcile net (loss)/income to net cash flows					
Depreciation of property and equipment and lease right-of-use assets	23	21	17	44	34
Amortization of intangible assets	5	5	3	10	7
Share-based payments expense	50	37	37	87	63
Finance income	(6)	(70)	(8)	(76)	(42)
Finance costs	294	12	64	306	220
Income tax (benefit)/expense	(99)	40	17	(59)	(10)
Other	2	4	(10)	6	(2)
Changes in working capital:					
(Increase)/decrease in trade receivables and other assets	(39)	22	(50)	(17)	(15)
Increase/(decrease) in trade and other liabilities	151	(63)	75	88	230
Increase/(decrease) in deferred revenue	34	(4)	19	30	32
(Decrease)/increase in provisions	—	(1)	8	(1)	8
Interest paid on lease liabilities	(15)	(15)	(9)	(30)	(13)
Interest received	—	3	4	3	8
Income tax paid	(5)	(1)	(1)	(6)	(3)
Net cash flows from/(used in) operating activities	**39**	**(9)**	**90**	**30**	**299**
Investing activities					
Business combinations, net of cash acquired	—	(137)	(36)	(137)	(324)
Purchases of property and equipment	(14)	(12)	(40)	(26)	(77)
Purchases of short term investments	(145)	(498)	(298)	(643)	(402)
Sales and maturities of short term investments	242	477	370	719	753
Change in restricted cash	2	—	—	2	1
Other	(7)	(14)	(3)	(21)	(7)
Net cash flows from/(used in) investing activities	**78**	**(184)**	**(7)**	**(106)**	**(56)**
Financing activities					
Proceeds from exercise of share options	101	77	20	178	53
Repurchases of ordinary shares	—	—	(157)	—	(283)
Payments of lease liabilities	(6)	(4)	(4)	(10)	(9)
Lease incentives received	—	7	—	7	—
Other	(5)	(3)	—	(8)	—
Net cash flows from/(used in) financing activities	**90**	**77**	**(141)**	**167**	**(239)**
Net increase/(decrease) in cash and cash equivalents	**207**	**(116)**	**(58)**	**91**	**4**
Cash and cash equivalents at beginning of the period	951	1,065	966	1,065	891
Net exchange (losses)/gains on cash and cash equivalents	(10)	2	1	(8)	14
Cash and cash equivalents at period end	**1,148**	**951**	**909**	**1,148**	**909**

COEX-
8.31

Calculation of basic and diluted earnings/(loss) per share
(Unaudited)
(in € millions, except share and per share data)

	Three months ended			Six months ended	
	June 30, 2020	March 31, 2020	June 30, 2019	June 30, 2020	June 30, 2019
Basic (loss)/earnings per share					
Net (loss)/income attributable to owners of the parent	(356)	1	(76)	(355)	(218)
Share used in computation:					
Weighted-average ordinary shares outstanding	186,552,877	185,046,324	180,409,115	185,799,600	180,510,763
Basic (loss)/earnings per share attributable to owners of the parent	**(1.91)**	**0.00**	**(0.42)**	**(1.91)**	**(1.21)**
Diluted loss per share					
Net (loss)/income attributable to owners of the parent	(356)	1	(76)	(355)	(218)
Fair value gains on dilutive warrants	—	(38)	—	—	—
Net loss used in the computation of diluted loss per share	**(356)**	**(37)**	**(76)**	**(355)**	**(218)**
Shares used in computation:					
Weighted-average ordinary shares outstanding	186,552,877	185,046,324	180,409,115	185,799,600	180,510,763
Warrants	—	585,789	—	—	—
Diluted weighted-average ordinary shares	**186,552,877**	**185,632,113**	**180,409,115**	**185,799,600**	**180,510,763**
Diluted loss per share attributable to owners of the parent	**(1.91)**	**(0.20)**	**(0.42)**	**(1.91)**	**(1.21)**

COEX-
8.31

Reconciliation of IFRS to Non-IFRS Results
(Unaudited)
(in € millions, except percentages)

	Three months ended		Six months ended	
	June 30, 2020	June 30, 2019	June 30, 2020	June 30, 2019
IFRS revenue	1,889	1,667	3,737	3,178
Foreign exchange effect on 2020 revenue using 2019 rates	34		23	
Revenue excluding foreign exchange effect	1,923		3,760	
IFRS revenue year-over-year change %	13%		18%	
Revenue excluding foreign exchange effect year-over-year change %	15%		18%	
IFRS Premium revenue	1,758	1,502	3,458	2,887
Foreign exchange effect on 2020 Premium revenue using 2019 rates	35		27	
Premium revenue excluding foreign exchange effect	1,793		3,485	
IFRS Premium revenue year-over-year change %	17%		20%	
Premium revenue excluding foreign exchange effect year-over-year change %	19%		21%	
IFRS Ad-Supported revenue	131	165	279	291
Foreign exchange effect on 2020 Ad-Supported revenue using 2019 rates	(1)		(4)	
Ad-Supported revenue excluding foreign exchange effect	130		275	
IFRS Ad-Supported revenue year-over-year change %	(21)%		(4)%	
Ad-Supported revenue excluding foreign exchange effect year-over-year change %	(21)%		(5)%	

Free Cash Flow
(Unaudited)
(in € millions)

	Three months ended			Six months ended	
	June 30, 2020	March 31, 2020	June 30, 2019	June 30, 2020	June 30, 2019
Net cash flows from/(used in) operating activities	39	(9)	90	30	299
Capital expenditures	(14)	(12)	(40)	(26)	(77)
Change in restricted cash	2	—	—	2	1
Free Cash Flow	**27**	**(21)**	**50**	**6**	**223**

COEX-
8.31

April 28, 2021

Dear Shareholders,

We are pleased with our performance in Q1. The business delivered subscriber growth and Gross Margin at the top end of our guidance range, a continued improvement in ARPU, and operating income better than plan. We saw greater MAU variability this quarter, but results were within our range of expectations given the outperformance in Q4 and the continued impact from COVID-19. Revenue grew by 16% (22% excluding the impact of FX) and was at the upper end of our guidance range. Other highlights from the quarter include a successful launch in 86 new markets, a $1.5 billion Exchangeable Notes offering, and the acquisition of Betty Labs (Locker Room).

SUMMARY USER AND FINANCIAL METRICS

				% Change	
USERS (M)	**Q1 2020**	**Q4 2020**	**Q1 2021**	**Y/Y**	**Q/Q**
Total Monthly Active Users ("MAUs")	286	345	356	24%	3%
Premium Subscribers	130	155	158	21%	2%
Ad-Supported MAUs	163	199	208	27%	4%
FINANCIALS (€M)					
Premium	1,700	1,887	1,931	14%	2%
Ad-Supported	148	281	216	46%	(23%)
Total Revenue	**1,848**	**2,168**	**2,147**	**16%**	**(1%)**
Gross Profit	472	575	548	16%	(5%)
Gross Margin	**25.5%**	**26.5%**	**25.5%**	**--**	**--**
Operating (Loss)/Income	**(17)**	**(69)**	**14**	**--**	**--**
Operating Margin	(0.9%)	(3.2%)	0.7%	--	--
Net cash flows from operating activities	(9)	107	**65**	--	(39%)
Free Cash Flow[1]	**(21)**	**74**	**41**	--	**(45%)**

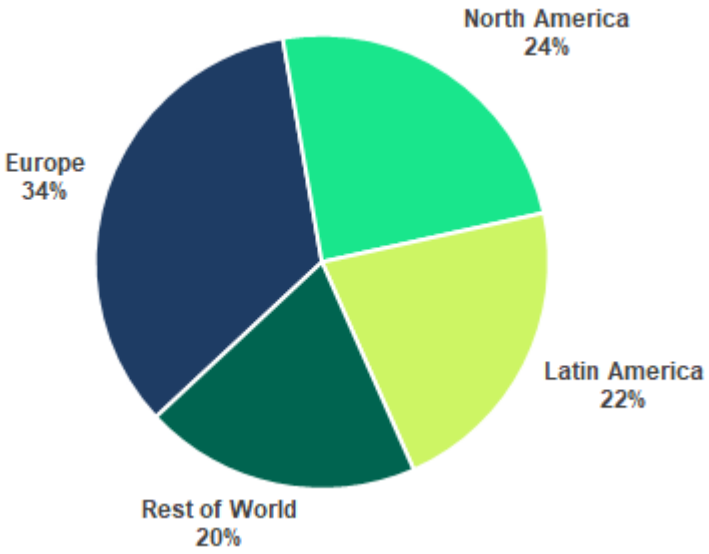
[1] Free Cash Flow is a non-IFRS measure. See “Use of Non-IFRS Measures” and “Reconciliation of IFRS to Non-IFRS Results” for additional information.

MONTHLY ACTIVE USERS ("MAUs")

Total MAUs grew 24% Y/Y to 356 million in the quarter, finishing within our guidance range but modestly below our internal expectations. In Q1, we added 11 million MAUs, which drove healthy double digit Y/Y growth across all regions. We saw meaningful contributions from markets such as the US, Mexico, Russia, and India. However, growth was lower than plan in Latin America and Europe. In aggregate, the performance of our newly launched markets was in line with our expectations.

Global consumption hours continued to grow meaningfully in Q1 on a Y/Y basis. Per user consumption grew in developed regions such as North America and Europe, while developing regions showed signs of improvement but remained below pre-COVID levels.

Total MAUs by Region

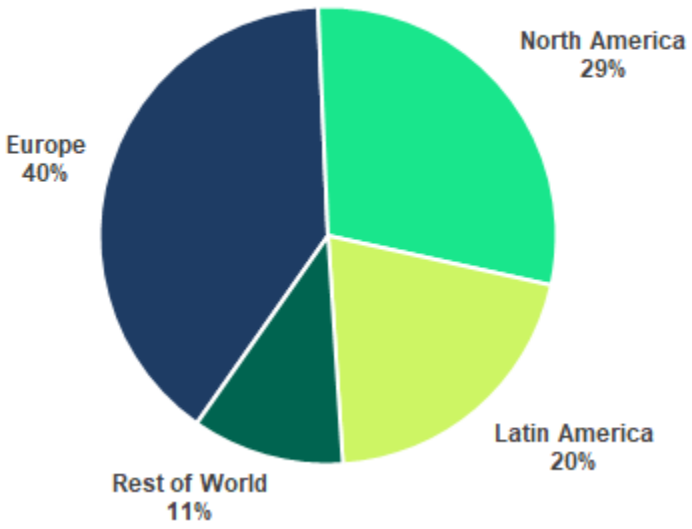


PREMIUM SUBSCRIBERS

Our Premium Subscribers grew 21% Y/Y to 158 million in the quarter, hitting the top end of our guidance range. In Q1, we added nearly 4 million subscribers, which drove healthy double digit Y/Y growth across all regions and was strong relative to a tough promotional comparison from Q1 last year. The subscriber outperformance was fairly broad based and led by North America, where we saw stronger than expected performance of Trials & Campaigns and faster than anticipated growth in our Standard product. In Latin America, we saw outperformance driven by the continued success of our Family Plan product. We are pleased with the new market contributions, with South Korea being the biggest driver.

Our average monthly Premium churn rate for the quarter was down modestly Y/Y and flat Q/Q. The Y/Y improvement continues to be driven by the adoption of our higher retention offerings like Family Plan in addition to growth in high retention regions.

Premium Subscribers by Region



FINANCIAL METRICS

Revenue

Total revenue of €2,147 million grew 16% Y/Y in Q1 (22% Y/Y on a constant currency basis). Reported revenue was toward the top end of our guidance range due to subscriber outperformance, slightly lower headwinds from FX (600 bps impact vs. 770 bps incorporated into our plan), and advertising strength. The FX impact was primarily driven by the Y/Y US dollar weakness vs. the Euro. Premium revenue grew 14% Y/Y to €1,931 million (or 19% Y/Y in constant currency terms) while Ad-Supported revenue was particularly strong, growing 46% Y/Y to €216 million (or 57% Y/Y in constant currency terms).

Within Premium, average revenue per user (“ARPU”) of €4.12 in Q1 was down 7% Y/Y (but down only 1% Y/Y in constant currency terms vs. down 3% Y/Y in Q4). Excluding FX, product mix accounted for the majority of the ARPU decline. To date, we have raised prices across a variety of our Premium offerings in over 30 markets and early results have shown no material impacts to gross intake or cancellation rates. On April 26th, we announced price increases for various subscription products in 12 additional markets, including the United States (Family Plan), United Kingdom (Student, Family, and Duo Plans), and Brazil (Full Portfolio).

Ad-Supported revenue outperformed our forecast with all regions growing double digits Y/Y excluding the impact of FX. The strength in Ad-Supported revenue was led by our Podcast and Programmatic channels, with the former benefiting from the acquisitions of Megaphone and The Ringer along with our exclusive licensing of the Joe Rogan Experience. Spotify Ad Studio grew substantially Y/Y, and we continued to expand the self-serve offering to more markets (France, Germany, and Italy) and began beta testing podcast inventory ad buying on Spotify Ad Studio in the US. Additionally, in April, we expanded Streaming Ad Insertion ("SAI") from the US, Canada, United Kingdom, and Germany to also include Australia and Sweden.

In February, we announced the Spotify Audience Network, a first-of-its-kind audio advertising marketplace which connects advertisers to listeners across Spotify Owned & Exclusive ("O&E") podcasts, podcasts from enterprise publishers via Megaphone, podcasts from emerging creators via Anchor, and ad-supported music. The Spotify Audience Network bundles multiple shows for advertisers to buy specific audiences using our proprietary SAI technology. We believe this shift will provide advertisers much greater reach and efficiency while creators gain a much greater monetization opportunity.

Gross Margin

Gross Margin finished at 25.5% in Q1, at the top end of our guidance range and flat Y/Y. While we continue to see strong revenue growth in podcast and non-music revenue, our non-music costs continue to grow at a slightly faster rate which is a modest drag on our Gross Margin. We did see improvements in Other Cost of Revenue (e.g. payment fees, streaming delivery costs) which offset the content spend increase.

Premium Gross Margin was 27.9% in Q1, down 42 bps Y/Y and Ad-Supported Gross Margin was 4.4% in Q1, up 1,100 bps Y/Y. As a reminder, all content costs related to podcast investment are included in the Ad-Supported business for the current and historical periods.

Operating Expenses / Income (Loss)

Operating Expenses totaled €534 million in Q1, an increase of 9% Y/Y and below our plan. Social Charges were approximately €35 million lower than forecast due to a decrease in our share price during the quarter, accounting for the majority of our Operating Expense variance. Excluding the impact of our share price volatility, Operating Expenses grew less than forecast at 14% Y/Y. Certain marketing expenses came in lower than expected due to campaign timing shifts, which were partially offset by higher than expected personnel expenses.

As a reminder, Social Charges are payroll taxes associated with employee salaries and benefits, including share-based compensation. We are subject to social taxes in several countries in which we operate, although Sweden accounts for the bulk of the social costs. We don't forecast stock price changes in our guidance so upward or downward movements will impact our reported operating expenses.

At the end of Q1, our workforce consisted of 6,794 FTEs globally.

Product and Platform

On March 29, 2021, we acquired Betty Labs, the creators of Locker Room, a live audio app that's changing the way insiders and fans talk about sports. This acquisition builds on our work to create "future formats of audio" and will accelerate Spotify's entry into the live audio space. We plan to evolve and expand Locker Room into an enhanced live audio experience for a wider range of creators and fans. Through this new live experience, Spotify will offer a range of sports, music, and cultural programming, as well as a host of interactive features that will enable creators to connect with audiences in real time. We intend to give professional athletes, writers, musicians, songwriters, podcasters, and other global voices opportunities to host real-time discussions, debates, ask me anything (AMA) sessions, and more.

During the quarter, Spotify launched multiple upgrades, including a new Desktop App and Web Player redesign that makes the user experience and navigation easier than ever by combining a modern scalable web player together with a cohesive Spotify design. Additionally, our web platform includes 36 new languages (62 in total), which also will be rolled out to the mobile app, allowing Spotify to reach more audiences.

We also began testing Podcast Topic Search in the US, which enables listeners to search for podcasts by theme and topic in an effort to make discovering new content easier than ever. In February, we announced a new partnership between Anchor and WordPress to generate opportunities for content creators to evolve their work and reach new audiences through the power of audio. With this new tool, bloggers can publish their written content as a podcast with just a few clicks—and podcasters can create a website for their podcast just as easily. This offers a whole new group of creators—those who have historically focused on the written word—to access an entirely new audience via audio and share their voices on Spotify.

We remain focused on our ubiquity strategy and continue to expand support for Spotify across a variety of platforms and markets. With the expansion of our footprint into non-music content, we also have expanded support for video podcasts on AppleTV (including AirPlay2), LG, and Comcast. At the end of Q1, users in 10 additional markets, including Sweden, Australia, and Chile, can now ask Alexa to play podcasts from Spotify. Additionally, PlayStation's PS4 and PS5 consoles now support Spotify in 5 new markets, including Russia, Ukraine, Croatia, Slovenia, and Israel.

Post Q1, we announced a limited launch of Car Thing to eligible US users. Car Thing is a smart player that allows users to more seamlessly engage with Spotify music, news, entertainment, talk, and more in the car. We also launched a joint partnership with Facebook to create an integrated ecosystem with a miniplayer experience driven by social discovery that allows listeners to enjoy audio from Spotify directly within Facebook, without switching between apps. Additionally, we announced new ways for podcast creators to monetize their work with the rollout of Spotify's Paid Subscriptions, the Spotify Open Access Platform, and utilization of the Spotify Audience Network for independent creators. These initiatives provide creators with different options to monetize their work, which allows them to continue to grow their audiences and create meaningful revenue streams.

Content

At the end of Q1, we had 2.6 million podcasts on the platform (up from more than 2.2 million podcasts by the end of Q4). The percentage of MAUs that engaged with podcast content on our platform was consistent with Q4 levels. From a consumption standpoint, we saw a strong increase in Q1 podcast consumption hours vs. Q4, with March activity driving an all-time high in terms of podcast share of overall platform consumption hours.

The Joe Rogan Experience performed above expectations with respect to new user additions and engagement. Notable Q1 content launches in the US included Renegades: Born in the USA (Higher Ground), Unlocking Us with Brene Brown (Parcast), Ringer Dish Feed - Taylor Swift (The Ringer), and Welcome To Your Fantasy (Gimlet). Renegades: Born in the USA, featuring former President Barack Obama and Bruce Springsteen, was the second largest podcast on Spotify in March (on an MAU basis) and has been our most international show to-date, with listenership extending across more than 150 countries. Internationally, we released 55 new O&E podcasts. Select launches included a Japanese original Juju Talk, which was a major driver of user acquisition in the country, as well as our first daily new original in Germany, FOMO - was hab ich heute verpasst (what did I miss today?). Additionally, we launched our first slate of 7 Spotify Originals in the Philippines, with topics ranging from gaming to well-being, featuring personalities like Pia Wurtzbach and Donnalyn Bartolome.

On the music front, key Q1 releases included Olivia Rodrigo's single, *drivers license*, which set the Spotify record for most streams in a day for a non-holiday song with over 15 million global streams on January 11. Additional releases include Arlo Parks' album, *Collapsed in Sunbeams*, as well as Selena Gomez's EP, *Revelación*. Daft Punk and Spotify partnered to celebrate the 20th anniversary of their highly acclaimed 2001 opus *Discovery* with an enhanced playlist experience after the announcement of the duo splitting up. The playlist included exclusive Canvas and Storylines for every track on the album, and since the start of the campaign, Daft Punk has seen a double digit increase in follows on-platform.

Two-Sided Marketplace

Sponsored Recommendations have shown strong growth and are becoming an essential part of new release marketing strategies for artists and labels. Q1 was the biggest quarter yet for Sponsored Recommendations, with an 11% increase over campaign volume from last quarter and a 10% increase in new customers vs. Q4. In an effort to expand and evolve Sponsored Recommendations, we expanded into Australia and New Zealand and have now made this tool available for singles. Additionally, we began the rollout of a self-serve buying experience for Sponsored Recommendations to select artist and label teams in the US.

At our Stream On event, we announced that we're testing a new commercial tool called Discovery Mode with a small group of labels that enables artists to better reach new audiences on Spotify. To ensure the tool is accessible to artists at any stage of their careers, it will not require any upfront budget and instead, labels or rights holders agree to be paid a promotional recording royalty rate for streams in personalized listening sessions where we provided this

service. Early results from the labels participating have been positive with participating labels seeing a 30% increase in streams for content opted in on average.

This quarter, we announced that all artists now have access to our popular feature, Canvas, through Spotify for Artists. The Canvas for Rodrigo's *drivers license* was shared from Spotify to Instagram Stories over 243,000 times in its first week alone and was viewed more than 50 million times in its first three weeks. Artists at every stage of their career have used Canvas, and we now have over 1 million Canvases live on Spotify.

In Q1, we launched Noteable — our new global home for songwriters, producers and publishers which is a central space to access all the resources we've made available to the songwriting and publishing community, including Spotify Publishing Analytics, SoundBetter, Songwriter Pages and Song Credits, the Songwriting Hub, and more.

Free Cash Flow
Free Cash Flow was €41 million in Q1, a €61 million increase Y/Y as the prior year included an unfavorable impact to working capital due to a shift in timing for select licensor payments as well as an increase in net income adjusted for non-cash items. These increases were partially offset by higher cash outflow for PP&E.

In addition to the positive Free Cash Flow dynamics, we maintain a strong liquidity position and are confident in the financial position of the business. During Q1, Spotify USA Inc. issued $1.5 billion in aggregate principal amount, zero coupon Exchangeable Notes due 2026 with a 70% conversion premium. At the end of Q1, we had €3.1 billion in cash and cash equivalents, restricted cash, and short term investments.

Q2 & 2021 OUTLOOK

The following forward-looking statements reflect Spotify's expectations as of April 28, 2021 and are subject to substantial uncertainty. The estimates below utilize the same methodology we've used in prior quarters with respect to our guidance and the potential range of outcomes. Given the extraordinary operating circumstances we currently face with respect to the impact of COVID-19, there is a greater likelihood of variances with respect to those ranges than typical quarters.

Q2 2021 Guidance:

- **Total MAUs**: 366-373 million
- **Total Premium Subscribers:** 162-166 million
- **Total Revenue:** €2.16-€2.36 billion
    - Assumes approximately 200 bps headwind to growth Y/Y due to movements in foreign exchange rates
- **Gross Margin:** 23.6-25.6%

- **Operating Profit/Loss:** €(134)-€(54) million

Full Year 2021 Guidance: We have modestly lowered our Total MAUs range for the full year consistent with the lower than expected Q1 Total MAU growth. Additionally, we have increased our outlook for Total Revenue and Gross Margin, as well as decreased the Operating Loss expectations. Our Premium Subscriber outlook remains unchanged.

- **Total MAUs**: 402-422 million
- **Total Premium Subscribers:** 172-184 million
- **Total Revenue:** €9.11-€9.51 billion
    - Assumes approximately 75 bps headwind to growth Y/Y due to movements in foreign exchange rates
- **Gross Margin:** 24.0-26.0%
- **Operating Profit/Loss:** €(250)-€(150) million

EARNINGS QUESTION & ANSWER SESSION

We will host a live question and answer session starting at 8 a.m. ET today on investors.spotify.com. Daniel Ek, our Founder and CEO, and Paul Vogel, our Chief Financial Officer, will be on hand to answer questions submitted through slido.com using the event code **#SpotifyEarningsQ121**. Participants also may join using the listen-only conference line by registering through the following site:

Direct Event Registration Portal: http://www.directeventreg.com/registration/event/8137415

We use investors.spotify.com and newsroom.spotify.com websites as well as other social media listed in the “Resources – Social Media” tab of our Investors website to disclose material company information.

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Use of Non-IFRS Measures

To supplement our financial information presented in accordance with IFRS, we use the following non-IFRS financial measures: Revenue excluding foreign exchange effect, Premium revenue excluding foreign exchange effect, Ad-Supported revenue excluding foreign exchange effect, and Free Cash Flow. Management believes that Revenue excluding foreign exchange effect, Premium revenue excluding foreign exchange effect and Ad-Supported revenue excluding foreign exchange effect are useful to investors because they present measures that facilitate comparison to our historical performance. However, Revenue excluding foreign exchange effect, Premium revenue excluding foreign exchange effect and Ad-Supported revenue excluding foreign exchange effect should be considered in addition to, not as a substitute for or superior to, Revenue, Premium revenue, Ad-Supported revenue or other financial measures prepared in accordance with IFRS. Management believes that Free Cash Flow is useful to investors

because it presents a measure that approximates the amount of cash generated that is available to repay debt obligations, to make investments, and for certain other activities that exclude certain infrequently occurring and/or non-cash items. However, Free Cash Flow should be considered in addition to, not as a substitute for or superior to, net cash flows (used in)/from operating activities or other financial measures prepared in accordance with IFRS. For more information on these non-IFRS financial measures, please see "Reconciliation of IFRS to Non-IFRS Results" table.

Forward Looking Statements

This shareholder letter contains estimates and forward-looking statements. All statements other than statements of historical fact are forward-looking statements. The words "may," "might," "will," "could," "would," "should," "expect," "plan," "anticipate," "intend," "seek," "believe," "estimate," "predict," "potential," "continue," "contemplate," "possible," and similar words are intended to identify estimates and forward-looking statements.

Our estimates and forward-looking statements are mainly based on our current expectations and estimates of future events and trends, which affect or may affect our businesses and operations. Although we believe that these estimates and forward-looking statements are based upon reasonable assumptions, they are subject to numerous risks and uncertainties and are made in light of information currently available to us. Many important factors may adversely affect our results as indicated in forward-looking statements. These factors include, but are not limited to: our ability to attract prospective users and to retain existing users; competition for users, user listening time, and advertisers; risks associated with our international expansion and our ability to manage our growth; our ability to predict, recommend, and play content that our users enjoy; our ability to effectively monetize our Service; our ability to generate sufficient revenue to be profitable or to generate positive cash flow and grow on a sustained basis; risks associated with the expansion of our operations to deliver non-music content, including podcasts, including increased business, legal, financial, reputational, and competitive risks; potential disputes or liabilities associated with content made available on our Service; risks relating to the acquisition, investment, and disposition of companies or technologies; our dependence upon third-party licenses for most of the content we stream; our lack of control over the providers of our content and their effect on our access to music and other content; our ability to comply with the many complex license agreements to which we are a party; our ability to accurately estimate the amounts payable under our license agreements; the limitations on our operating flexibility due to the minimum guarantees required under certain of our license agreements; our ability to obtain accurate and comprehensive information about the compositions embodied in sound recordings in order to obtain necessary licenses or perform obligations under our existing license agreements; new copyright legislation and related regulations that may increase the cost and/or difficulty of music licensing; assertions by third parties of infringement or other violations by us of their intellectual property rights; our ability to protect our intellectual property; the dependence of streaming on operating systems, online platforms, hardware, networks, regulations, and standards that we do not control; potential breaches of our security systems; interruptions, delays, or discontinuations in service in our systems or systems of third parties; changes in laws or regulations affecting us; risks relating to privacy and data security; our ability to maintain, protect, and enhance our brand; payment-related risks; our ability to hire and retain key personnel; our ability to accurately estimate our user metrics and other estimates; risks associated with manipulation of stream counts and user accounts and unauthorized access to our services; tax-related risks; the concentration of voting power among our founders who have and will continue to have substantial control over our business; risks related to our status as a foreign private issuer; international, national or local economic, social or political conditions; risks associated with accounting estimates, currency fluctuations and foreign exchange controls; and the impact of the COVID-19 pandemic on our business and operations, including any adverse impact on advertising sales or subscriber revenue. A detailed discussion of these and other risks and uncertainties that could cause actual results and events to differ materially from our estimates and forward-looking statements is included in our filings with the U.S. Securities and Exchange Commission ("SEC"), including our Annual Report on Form 20-F filed with the SEC on February 5, 2021, as updated by subsequently filed reports for our interim results on Form 6-K. We undertake no obligation to update forward-looking statements to reflect events or circumstances occurring after the date of this shareholder letter.

Rounding

Certain monetary amounts, percentages, and other figures included in this letter have been subject to rounding adjustments. The sum of individual metrics may not always equal total amounts indicated due to rounding.

Consolidated statement of operations

(Unaudited)

(in € millions, except share and per share data)

	Three months ended		
	March 31, 2021	December 31, 2020	March 31, 2020
Revenue	2,147	2,168	1,848
Cost of revenue	1,599	1,593	1,376
Gross profit	**548**	**575**	**472**
Research and development	196	232	162
Sales and marketing	236	294	231
General and administrative	102	118	96
	534	**644**	**489**
Operating income/(loss)	**14**	**(69)**	**(17)**
Finance income	104	4	70
Finance costs	(31)	(114)	(12)
Finance income/(costs) - net	**73**	**(110)**	**58**
Income/(loss) before tax	**87**	**(179)**	**41**
Income tax (benefit)/expense	64	(54)	40
Net income/(loss) attributable to owners of the parent	**23**	**(125)**	**1**
Earnings/(loss) per share attributable to owners of the parent			
Basic	0.12	(0.66)	—
Diluted	(0.25)	(0.66)	(0.20)
Weighted-average ordinary shares outstanding			
Basic	190,565,397	189,852,424	185,046,324
Diluted	191,815,695	189,852,424	185,632,113

COEX-
8.31

Consolidated statement of financial position

(Unaudited)

(in € millions)

	March 31, 2021	December 31, 2020
Assets		
Non-current assets		
Lease right-of-use assets	452	444
Property and equipment	337	313
Goodwill	815	736
Intangible assets	98	97
Long term investments	2,522	2,277
Restricted cash and other non-current assets	82	78
Deferred tax assets	14	15
	4,320	**3,960**
Current assets		
Trade and other receivables	440	464
Income tax receivable	5	4
Short term investments	644	596
Cash and cash equivalents	2,442	1,151
Other current assets	186	151
	3,717	**2,366**
Total assets	**8,037**	**6,326**
Equity and liabilities		
Equity		
Share capital	—	—
Other paid in capital	4,630	4,583
Treasury shares	(171)	(175)
Other reserves	2,052	1,687
Accumulated deficit	(3,267)	(3,290)
Equity attributable to owners of the parent	**3,244**	**2,805**
Non-current liabilities		
Exchangeable Notes	1,229	—
Lease liabilities	587	577
Accrued expenses and other liabilities	38	42
Provisions	3	2
	1,857	**621**
Current liabilities		
Trade and other payables	660	638
Income tax payable	12	9
Deferred revenue	424	380
Accrued expenses and other liabilities	1,715	1,748
Provisions	20	20
Derivative liabilities	105	105
	2,936	**2,900**
Total liabilities	**4,793**	**3,521**
Total equity and liabilities	**8,037**	**6,326**

Consolidated statement of cash flows
(Unaudited)
(in € millions)

	Three months ended		
	March 31, 2021	December 31, 2020	March 31, 2020
Operating activities			
Net income/(loss)	23	(125)	1
Adjustments to reconcile net income/(loss) to net cash flows			
Depreciation of property and equipment and lease right-of-use assets	22	21	21
Amortization of intangible assets	8	8	5
Share-based payments expense	48	43	37
Finance income	(104)	(4)	(70)
Finance costs	31	114	12
Income tax expense/(benefit)	64	(54)	40
Other	2	4	4
Changes in working capital:			
Decrease/(increase) in trade receivables and other assets	15	(94)	22
(Decrease)/increase in trade and other liabilities	(67)	182	(63)
Increase/(decrease) in deferred revenue	37	23	(4)
Decrease in provisions	(1)	—	(1)
Interest paid on lease liabilities	(11)	(12)	(15)
Interest received	—	1	3
Income tax paid	(2)	—	(1)
Net cash flows from/(used in) operating activities	**65**	**107**	**(9)**
Investing activities			
Business combinations, net of cash acquired	(59)	(194)	(137)
Purchases of property and equipment	(24)	(35)	(12)
Purchases of short term investments	(115)	(406)	(498)
Sales and maturities of short term investments	90	505	477
Change in restricted cash	—	2	—
Other	(6)	(4)	(14)
Net cash flows used in investing activities	**(114)**	**(132)**	**(184)**
Financing activities			
Payments of lease liabilities	(8)	(8)	(4)
Lease incentives received	—	7	7
Proceeds from exercise of stock options	51	45	77
Proceeds from issuance of Exchangeable Notes, net of costs	1,223	—	—
Other	(16)	(11)	(3)
Net cash flows from financing activities	**1,250**	**33**	**77**
Net increase/(decrease) in cash and cash equivalents	**1,201**	**8**	**(116)**
Cash and cash equivalents at beginning of the period	1,151	1,182	1,065
Net exchange gains/(losses) on cash and cash equivalents	90	(39)	2
Cash and cash equivalents at period end	**2,442**	**1,151**	**951**

COEX-
8.31

Calculation of basic and diluted earnings/(loss) per share

(Unaudited)

(in € millions, except share and per share data)

	Three months ended		
	March 31, 2021	**December 31, 2020**	**March 31, 2020**
Basic earnings/(loss) per share			
Net income/(loss) attributable to owners of the parent	23	(125)	1
Share used in computation:			
Weighted-average ordinary shares outstanding	190,565,397	189,852,424	185,046,324
Basic earnings/(loss) per share attributable to owners of the parent	**0.12**	**(0.66)**	**—**
Diluted loss per share			
Net income/(loss) attributable to owners of the parent	23	(125)	1
Fair value gains on dilutive warrants	(22)	—	(38)
Fair value gains on Exchangeable Notes	(49)	—	—
Net loss used in the computation of diluted loss per share	**(48)**	**(125)**	**(37)**
Shares used in computation:			
Weighted-average ordinary shares outstanding	190,565,397	189,852,424	185,046,324
Warrants	312,148	—	585,789
Exchangeable Notes	938,150	—	—
Diluted weighted-average ordinary shares	**191,815,695**	**189,852,424**	**185,632,113**
Diluted loss per share attributable to owners of the parent	**(0.25)**	**(0.66)**	**(0.20)**

COEX-
8.31

Reconciliation of IFRS to Non-IFRS Results

(Unaudited)

(in € millions, except percentages)

	Three months ended	
	March 31, 2021	**March 31, 2020**
IFRS revenue	2,147	1,848
Foreign exchange effect on 2021 revenue using 2020 rates	(114)	
Revenue excluding foreign exchange effect	2,261	
IFRS revenue year-over-year change %	16 %	
Revenue excluding foreign exchange effect year-over-year change %	22 %	
IFRS Premium revenue	1,931	1,700
Foreign exchange effect on 2021 Premium revenue using 2020 rates	(98)	
Premium revenue excluding foreign exchange effect	2,029	
IFRS Premium revenue year-over-year change %	14 %	
Premium revenue excluding foreign exchange effect year-over-year change %	19 %	
IFRS Ad-Supported revenue	216	148
Foreign exchange effect on 2021 Ad-Supported revenue using 2020 rates	(16)	
Ad-Supported revenue excluding foreign exchange effect	232	
IFRS Ad-Supported revenue year-over-year change %	46 %	
Ad-Supported revenue excluding foreign exchange effect year-over-year change %	57 %	

Free Cash Flow

(Unaudited)

(in € millions)

	Three months ended		
	March 31, 2021	**December 31, 2020**	**March 31, 2020**
Net cash flows from operating activities	65	107	(9)
Capital expenditures	(24)	(35)	(12)
Change in restricted cash	—	2	—
Free Cash Flow	**41**	**74**	**(21)**

COEX-
8.31

July 28, 2021

Dear Shareholders,

Most of our major metrics -- Subscriber growth, Revenue, Gross Margin, and Operating Income -- performed better than expected this quarter. The exception was MAUs, where we fell short of our guidance range. The quarter was led by improving ARPU, decreased churn, a return to per user consumption growth, and significant advertising strength. We did see a second quarter of greater MAU variability mainly due to ongoing COVID-19 headwinds and a temporary issue related to user intake on a third party platform. However, trends improved in the back half of the quarter. Additionally, we generated positive Free Cash Flow of €34 million.

SUMMARY USER AND FINANCIAL METRICS

				% Change	
USERS (M)	**Q2 2020**	**Q1 2021**	**Q2 2021**	**Y/Y**	**Q/Q**
Total Monthly Active Users ("MAUs")	299	356	365	22%	3%
Premium Subscribers	138	158	165	20%	4%
Ad-Supported MAUs	170	208	210	24%	1%
FINANCIALS (€M)					
Premium	1,758	1,931	2,056	17%	6%
Ad-Supported	131	216	275	110%	28%
Total Revenue	**1,889**	**2,147**	**2,331**	**23%**	**9%**
Gross Profit	479	548	663	38%	21%
Gross Margin	**25.4%**	**25.5%**	**28.4%**	**--**	**--**
Operating (Loss)/Income	**(167)**	**14**	**12**	**--**	--
Operating Margin	(8.8%)	0.7%	0.5%	--	--
Net cash flows from operating activities	39	65	54	--	(17%)
Free Cash Flow[1]	**27**	**41**	**34**	--	**(17%)**

[1] Free Cash Flow is a non-IFRS measure. See “Use of Non-IFRS Measures” and “Reconciliation of IFRS to Non-IFRS Results” for additional information.

MONTHLY ACTIVE USERS ("MAUs")

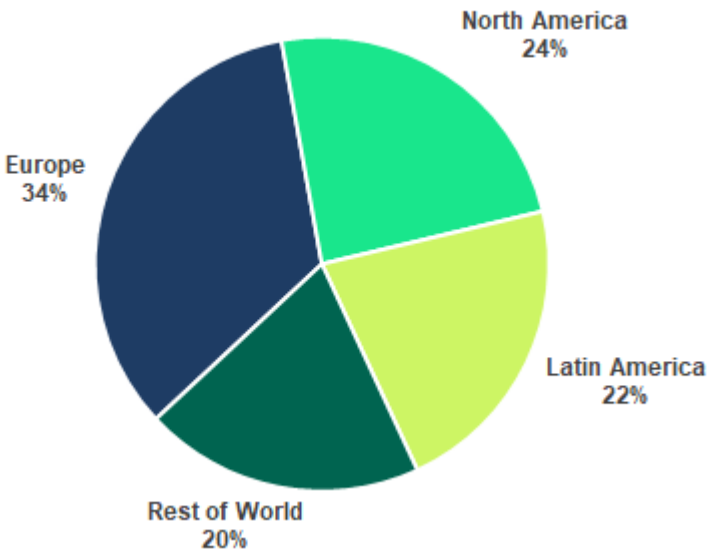
Total MAUs grew 22% Y/Y to 365 million in the quarter, finishing below our guidance range and forecast. Despite our underperformance, we added 9 million MAUs in Q2, which drove double digit Y/Y growth in all regions.

MAU performance was slower than expected due primarily to lighter user intake during the first half of the quarter. COVID-19 continued to weigh on our performance in several markets, and, in some instances, we paused marketing campaigns due to the severity of the pandemic. Separately, a user sign-up issue associated with a global third party platform created unexpected intake friction, which also impacted MAU growth. This issue has since been resolved.

Overall, we saw a return to better growth patterns in the back half of the quarter. Although we continue to face near-term uncertainty with respect to COVID-19, we remain confident in the underlying health of our user funnel, and our existing user retention activity remains consistent with historical trends.

Global consumption hours continued to grow meaningfully in Q2 on a Y/Y basis. On a per user basis, global consumption levels returned to Y/Y growth in the quarter, led by gains in developed regions such as North America and Europe.

Total MAUs by Region



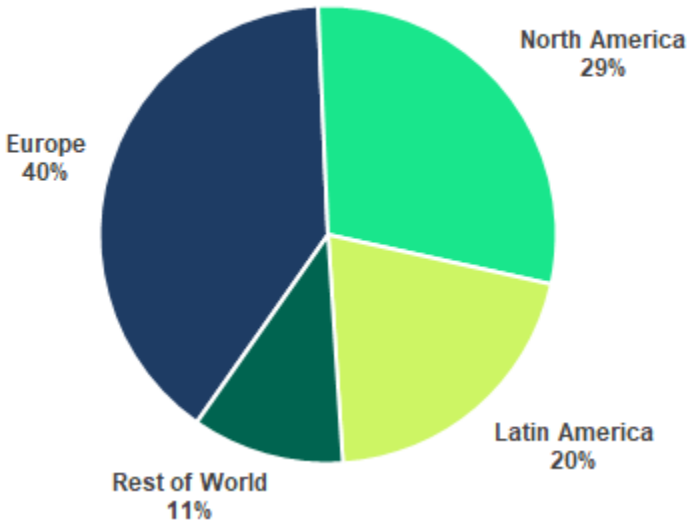
PREMIUM SUBSCRIBERS

Our Premium Subscribers grew 20% Y/Y to 165 million in the quarter, towards the upper end of our guidance range and modestly ahead of forecast. We added 7 million subscribers in Q2, which drove healthy double digit Y/Y growth across all regions. We saw strong performance of our Standard product across both Europe and North America.

Compared with the last few years, we shortened our mid-year promotional campaign cycle from 6 weeks to 4 weeks, and performance exceeded expectations. Additionally, we added or expanded several major promotional partnerships in the quarter, including a renewal and expansion of our Samsung promotion (offering 3 month trials in 73 markets to all new and existing mobile/speaker/wearable and appliance devices), a renewal and expansion of our Microsoft Gamepass promotion (offering 3 or 4 month trials in 15 markets), a new Epic/Fortnite promotion (3 month trial in 25 markets), a renewal of our Paypal promotion (3 month trial in 10 markets), and a renewal and expansion of our Vivo promotion (3 month trial in Brazil). Additionally, we announced a new promotion with TikTok (3 or 4 month trial across 7 countries in EMEA) which launched in mid July.

Our average monthly Premium churn rate for the quarter was down 23 bps Y/Y and down modestly Q/Q. The Y/Y improvement continues to be driven by the adoption of our higher retention offerings like Duo and Family Plans in addition to growth in high retention regions.

Premium Subscribers by Region



FINANCIAL METRICS

Revenue

Revenue of €2,331 million grew 23% Y/Y in Q2 (or 28% Y/Y on a constant currency basis) and was toward the top end of our guidance range due to significant advertising strength and subscriber outperformance. FX headwinds of 430 bps were 230 bps greater than expected, primarily driven by US dollar weakness vs. the Euro. Premium Revenue grew 17% Y/Y to €2,056 million (or 20% Y/Y constant currency) while Ad-Supported Revenue was particularly strong, growing 110% Y/Y to €275 million (or 126% Y/Y constant currency).

Within Premium, average revenue per user ("ARPU") of €4.29 in Q2 was down 3% Y/Y (or flat Y/Y constant currency vs. down 1% Y/Y in Q1). Excluding the impact of FX, we saw a benefit to ARPU from our Q1 price increases along with a marginal initial impact from Q2 price increases, offset by the impact of product mix shift.

Ad-Supported Revenue outperformed our forecast, driven by strong underlying demand (benefiting sellout and pricing) and aided by favorable comps vs. last year's COVID-19 lows. The strength in Ad-Supported Revenue was led by our Direct and Podcast sales channels, with the latter benefiting from a triple-digit Y/Y gain at existing Spotify studios (The Ringer, Parcast, Spotify Studios, and Gimlet) along with contributions from the Megaphone acquisition, the exclusive licensing of the Joe Rogan Experience, and Higher Ground. Ad Studio grew 165% Y/Y due to the success of the video product within Ad Studio and international market contributions.

We are very pleased with the initial performance of the Spotify Audience Network which launched in the US in April. The rollout allowed us to increase our monetizable podcast inventory in the US by nearly 3x. Additionally, for opted-in podcast publishers we've seen a double digit increase in fill rates, a meaningful increase in unique advertisers, and a double digit lift in CPMs. On July 1, we expanded the Spotify Audience Network to include Australia, Canada, and the United Kingdom.

Gross Margin

Gross Margin finished at 28.4% in Q2, above the top end of our guidance range and reflecting 308 bps of Y/Y expansion. While we did benefit from the release of accruals for prior period publishing royalty estimates, excluding the impact of these items, Gross Margin would have been 26.5%, ahead of our expectations. The Gross Margin improvement excluding these releases was driven by a favorable revenue mix shift towards podcasts, marketplace activity, and Other Cost of Revenue efficiencies (e.g. payment fees, streaming delivery costs), which were partially offset by higher non-music and other content costs and publishing rate increases.

Premium Gross Margin was 30.8% in Q2, up 261 bps Y/Y and Ad-Supported Gross Margin was 11.3% in Q2, up 2,321 bps Y/Y. As a reminder, all content costs related to podcast investment are included in the Ad-Supported business for the current and historical periods.

Operating Expenses

Operating Expenses totaled €651 million in Q2, an increase of 1% Y/Y (or 5% Y/Y constant currency) and in line with our plan. Excluding the benefits of currency movements, Operating Expenses were modestly higher than forecast as lower than expected marketing expenses arising from campaign timing shifts were offset by higher personnel costs.

Social Charges were approximately €2 million higher than forecast due to an increase in our share price during the quarter. Excluding the impact of Social Charges in both periods, Operating Expenses grew roughly in line with revenue. As a reminder, Social Charges are payroll taxes associated with employee salaries and benefits, including share-based compensation. We are subject to social taxes in several countries in which we operate, although Sweden accounts for the bulk of the social costs. We don't forecast stock price changes in our guidance so upward or downward movements will impact our reported operating expenses.

At the end of Q2, our workforce consisted of 7,085 FTEs globally.

Product and Platform

During the quarter, we continued to increase the pace of our innovation efforts. On June 16, we soft-launched Spotify Greenroom, a redesigned version of Betty Lab's Locker Room app, as part of our entry into the live audio space. This mobile app allows users to join or host live audio rooms, and optionally turn those conversations into podcasts. Additionally, we announced a Creator Fund bringing new exciting content to users and helping those creators get rewarded for the content they create on the platform. We expect to move to a full commercial launch of Spotify Greenroom later this year, with an initial focus on sports, pop culture, music, and entertainment.

During the quarter, we began rolling out our paid subscription platform for podcasters in the US. Additionally, as part of our Spotify Open Access platform strategy, we announced several new partnerships aimed at opening our platform to third-party paywalled content with the goal of becoming the world's leading audio browser. On May 20, we partnered with Storytel, one of the world's leading audiobook streaming services, to give Storytel subscribers the ability to enjoy their library of audiobooks on Spotify. On July 27, we announced more than 10 new Spotify Open Access partners -- with more to come -- all of which will be able to activate their subscriber base on Spotify while retaining full control over their content.

We continue to improve our search capability expanding our functionality to include filters and voice search making it quicker and more efficient for users to find content. Additionally, we

rolled out a new version of Your Library to all Spotify mobile users that creates a streamlined way for listeners to explore their collection and find saved music and podcasts more easily.

During the quarter, we also advanced our product ubiquity efforts in a number of key areas. We introduced a new miniplayer experience that allows listeners to share, explore, and discover audio from Spotify directly within Facebook, without switching between apps. On the Apple Watch, we rolled out the capability for users to download playlists, albums, and podcasts to their watch. Finally, we expanded our video podcast footprint to Xbox gaming consoles and went live with the Spotify X1 integration to Rogers Communications customers in Canada.

Content

At the end of Q2, we had 2.9 million podcasts on the platform (up from 2.6 million at the end of Q1). The percentage of MAUs that engaged with podcast content on our platform improved modestly relative to Q1. Among MAUs that engaged with podcasts in Q2, consumption trends were strong (up 95% Y/Y in aggregate and more than 30% Y/Y on a per user basis) while week-over-week and month-over-month retention rates reached all-time highs. During the quarter, podcast share of overall consumption hours on our platform also reached an all-time high.

During the quarter, we announced exclusive licensing deals with Call Her Daddy and Armchair Expert, both of which are now exclusively on Spotify. The Joe Rogan Experience continues to perform above expectations, and The Ringer shows, such as The Bill Simmons Podcast, grew consumption significantly as the NBA headed into the playoffs.

Internationally, we released 100 new Originals & Exclusives ("O&E") podcasts across markets including 5 adaptations of existing formats. We expanded Your Daily Drive to include Mexico (Ruta Diaria), Argentina (Ruta Diaria), and Brazil (Caminho Diário). The launches included bespoke content from 28 partners across the region, such as notable new organizations like Infobae and La Nación (Argentina), W Radio (Mexico), and 123 Segundos (Brazil), a Spotify original. One of the top podcasts in India, The Ranveer Show, which covers topics like health, spirituality, and lifestyle, also came exclusively to Spotify in June.

In Q2, Olivia Rodrigo's album, *SOUR*, set the record for biggest streaming debut for any album on Spotify this year with over 63 million global first day streams. Other major releases in the quarter include BTS single, *Butter,* Griff's Album, *One Foot In Front Of The Other,* and Doja Cat's album, *Planet Her.* Spotify also launched a new Fresh Finds marketing program to celebrate Indie artists in the US as well as expanding the playlist via localized editions in 13 territories around the world. Fresh Finds, which first launched in 2016, has playlisted over 25,000 artists and built a reputation among users and in the industry as the go-to destination to discover new Indie acts. In addition, of artists whose first editorial playlist is Fresh Finds, over 44% go on to be playlisted in another editorial property on Spotify.

Two-Sided Marketplace
We continue to test Discovery Mode with a small set of labels and licensors including major labels, independent labels, and independent artist distributors. Thus far, artists with tracks in Discovery Mode have found over 40% more listeners on average compared to pre-Discovery Mode. Additionally, 44% of those listeners had never listened to the artist before. We are integrating feedback from our early partners with a broader rollout of Discovery Mode expected later this year with the main goal of facilitating more artist to fan connections.

Sponsored Recommendations (i.e. Marquee) continued to gain traction during the second quarter as we expanded into more international markets including Australia, Ireland, New Zealand, and the UK. We also rolled out new functionality for artist teams using the self-serve platform to target specific audience segments (casual listeners, lapsed listeners, and recently interested listeners) with their campaigns, a functionality previously only available to customers purchasing through our sales team.

Free Cash Flow
Free Cash Flow was €34 million in Q2, a €7 million increase Y/Y primarily due to an increase in net income adjusted for non-cash items, partially offset by higher working capital needs arising from select licensor payments (delayed from Q1), podcast-related payments, and higher ad-receivables. Capital expenditures increased €6 million Y/Y largely due to office build outs in LA, Berlin, and Miami.

At the end of Q2, we maintained a strong liquidity position with €3.1 billion in cash and cash equivalents, restricted cash, and short term investments.

Q3 & Q4 2021 OUTLOOK

The following forward-looking statements reflect Spotify's expectations as of July 28, 2021 and are subject to substantial uncertainty. The estimates below utilize the same methodology we've used in prior quarters with respect to our guidance and the potential range of outcomes. Given the extraordinary operating circumstances we currently face with respect to the impact of COVID-19, there is a greater likelihood of variances with respect to those ranges than typical quarters.

Q3 2021 Guidance:

- **Total MAUs**: 377-382 million
- **Total Premium Subscribers:** 170-174 million
- **Total Revenue:** €2.31-€2.51 billion
    - Assumes approximately 60 bps tailwind to growth Y/Y due to movements in foreign exchange rates

- **Gross Margin:** 24.4-26.4%
- **Operating Profit/Loss:** €(80)-€0 million

Q4 2021 Guidance:

- **Total MAUs**: 400-407 million
- **Total Premium Subscribers:** 177-181 million
- **Total Revenue:** €2.48-€2.68 billion
    - Assumes approximately 175 bps tailwind to growth Y/Y due to movements in foreign exchange rates
- **Gross Margin:** 24.1-26.1%
- **Operating Profit/Loss:** €(152)-€(72) million

EARNINGS QUESTION & ANSWER SESSION

We will host a live question and answer session starting at 8 a.m. ET today on investors.spotify.com. Daniel Ek, our Founder and CEO, and Paul Vogel, our Chief Financial Officer, will be on hand to answer questions submitted through slido.com using the event code **#SpotifyEarningsQ221**. Participants also may join using the listen-only conference line by registering through the following site:

Direct Event Registration Portal: http://www.directeventreg.com/registration/event/6039475

We use investors.spotify.com and newsroom.spotify.com websites as well as other social media listed in the “Resources – Social Media” tab of our Investors website to disclose material company information.

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Use of Non-IFRS Measures

To supplement our financial information presented in accordance with IFRS, we use the following non-IFRS financial measures: Revenue excluding foreign exchange effect, Premium revenue excluding foreign exchange effect, Ad-Supported revenue excluding foreign exchange effect, Gross margin excluding release of accruals for prior period publishing royalty estimate, Operating expense excluding foreign exchange effect, Operating expense excluding social charge, and Free Cash Flow. Management believes that Revenue excluding foreign exchange effect, Premium revenue excluding foreign exchange effect, Gross margin excluding release of accruals for prior period publishing royalty estimate, Operating expense excluding foreign exchange effect, Operating expense excluding social charge are useful to investors because they present measures that facilitate comparison to our historical performance. However, Revenue excluding foreign exchange effect, Premium revenue excluding foreign exchange effect, Ad-Supported revenue excluding foreign exchange effect, Gross margin excluding release

of accruals for prior period publishing royalty estimate, Operating expense excluding foreign exchange effect, Operating expense excluding social charge, should be considered in addition to, not as a substitute for or superior to, Revenue, Premium revenue, Ad-Supported revenue, Gross margin, Operating expense or other financial measures prepared in accordance with IFRS. Management believes that Free Cash Flow is useful to investors because it presents a measure that approximates the amount of cash generated that is available to repay debt obligations, to make investments, and for certain other activities that exclude certain infrequently occurring and/or non-cash items. However, Free Cash Flow should be considered in addition to, not as a substitute for or superior to, net cash flows (used in)/from operating activities or other financial measures prepared in accordance with IFRS. For more information on these non-IFRS financial measures, please see “Reconciliation of IFRS to Non-IFRS Results” table.

Forward Looking Statements

This shareholder letter contains estimates and forward-looking statements. All statements other than statements of historical fact are forward-looking statements. The words “may,” “might,” “will,” “could,” “would,” “should,” “expect,” “plan,” “anticipate,” “intend,” “seek,” “believe,” “estimate,” “predict,” “potential,” “continue,” “contemplate,” “possible,” and similar words are intended to identify estimates and forward-looking statements.

Our estimates and forward-looking statements are mainly based on our current expectations and estimates of future events and trends, which affect or may affect our businesses and operations. Although we believe that these estimates and forward-looking statements are based upon reasonable assumptions, they are subject to numerous risks and uncertainties and are made in light of information currently available to us. Many important factors may adversely affect our results as indicated in forward-looking statements. These factors include, but are not limited to: our ability to attract prospective users and to retain existing users; competition for users, user listening time, and advertisers; risks associated with our international expansion and our ability to manage our growth; our ability to predict, recommend, and play content that our users enjoy; our ability to effectively monetize our Service; our ability to generate sufficient revenue to be profitable or to generate positive cash flow and grow on a sustained basis; risks associated with the expansion of our operations to deliver non-music content, including podcasts, including increased business, legal, financial, reputational, and competitive risks; potential disputes or liabilities associated with content made available on our Service; risks relating to the acquisition, investment, and disposition of companies or technologies; our dependence upon third-party licenses for most of the content we stream; our lack of control over the providers of our content and their effect on our access to music and other content; our ability to comply with the many complex license agreements to which we are a party; our ability to accurately estimate the amounts payable under our license agreements; the limitations on our operating flexibility due to the minimum guarantees required under certain of our license agreements; our ability to obtain accurate and comprehensive information about the compositions embodied in sound recordings in order to obtain necessary licenses or perform obligations under our existing license agreements; new copyright legislation and related regulations that may increase the cost and/or difficulty of music licensing; assertions by third parties of infringement or other violations by us of their intellectual property rights; our ability to protect our intellectual property; the dependence of streaming on operating systems, online platforms, hardware, networks, regulations, and standards that we do not control; potential breaches of our security systems or systems of third parties, including as a result of our Work From Anywhere program; interruptions, delays, or discontinuations in service in our systems or systems of third parties; changes in laws or regulations affecting us; risks relating to privacy and protection of user data; our ability to maintain, protect, and enhance our brand; payment-related risks; our ability to hire and retain key personnel, and challenges to productivity and integration as a result of our Work From Anywhere program; our ability to accurately estimate our user metrics and other estimates; risks associated with manipulation of stream counts and user accounts and unauthorized access to our services; tax-related risks; the concentration of voting power among our founders who have and will continue to have substantial control over our business; risks related to our status as a foreign private issuer; international, national or local economic, social or political conditions; risks associated with accounting estimates, currency fluctuations and foreign exchange controls; and the impact of the COVID-19 pandemic on our business and operations, including any adverse impact on advertising sales or subscriber revenue; risks related to our debt, including limitations on our cash flow for operations and our ability to satisfy our obligations under the Exchangeable Notes; our ability to raise the funds necessary to repurchase the Exchangeable Notes for cash, under certain circumstances, or to pay any cash amounts due upon exchange; provisions in the indenture governing the Exchangeable Notes delaying or preventing an otherwise beneficial takeover of us; and any adverse impact on our reported financial condition and results from the accounting methods for the Exchangeable Notes. A detailed discussion of these and other risks and uncertainties that could cause actual results and events to differ materially from our estimates and forward-looking statements is included in our filings with the U.S. Securities and Exchange Commission (“SEC”), including our Annual Report on Form 20-F filed with the SEC on February 5, 2021, as updated by subsequently filed reports for our interim results on Form 6-K. We undertake no obligation to update forward-looking statements to reflect events or circumstances occurring after the date of this shareholder letter.

Rounding

Certain monetary amounts, percentages, and other figures included in this letter have been subject to rounding adjustments. The sum of individual metrics may not always equal total amounts indicated due to rounding.

Interim condensed consolidated statement of operations

(Unaudited)

(in € millions, except share and per share data)

	Three months ended			Six months ended	
	June 30, 2021	**March 31, 2021**	**June 30, 2020**	**June 30, 2021**	**June 30, 2020**
Revenue	2,331	2,147	1,889	4,478	3,737
Cost of revenue	1,668	1,599	1,410	3,267	2,786
Gross profit	**663**	**548**	**479**	**1,211**	**951**
Research and development	255	196	267	451	429
Sales and marketing	279	236	248	515	479
General and administrative	117	102	131	219	227
	651	**534**	**646**	**1,185**	**1,135**
Operating income/(loss)	**12**	**14**	**(167)**	**26**	**(184)**
Finance income	21	104	6	125	76
Finance costs	(25)	(31)	(294)	(56)	(306)
Finance income/(costs) - net	**(4)**	**73**	**(288)**	**69**	**(230)**
Income/(loss) before tax	**8**	**87**	**(455)**	**95**	**(414)**
Income tax expense/(benefit)	28	64	(99)	92	(59)
Net (loss)/income attributable to owners of the parent	**(20)**	**23**	**(356)**	**3**	**(355)**
(Loss)/earnings per share attributable to owners of the parent					
Basic	(0.10)	0.12	(1.91)	0.02	(1.91)
Diluted	(0.19)	(0.25)	(1.91)	(0.44)	(1.91)
Weighted-average ordinary shares outstanding					
Basic	191,172,946	190,565,397	186,552,877	190,870,850	185,799,600
Diluted	194,084,446	191,815,695	186,552,877	193,051,280	185,799,600

Condensed consolidated statement of financial position

(Unaudited)

(in € millions)

	June 30, 2021	December 31, 2020
Assets		
Non-current assets		
Lease right-of-use assets	441	444
Property and equipment	351	313
Goodwill	851	736
Intangible assets	95	97
Long term investments	1,897	2,277
Restricted cash and other non-current assets	78	78
Deferred tax assets	17	15
	3,730	**3,960**
Current assets		
Trade and other receivables	492	464
Income tax receivable	6	4
Short term investments	612	596
Cash and cash equivalents	2,440	1,151
Other current assets	201	151
	3,751	**2,366**
Total assets	**7,481**	**6,326**
Equity and liabilities		
Equity		
Share capital	—	—
Other paid in capital	4,656	4,583
Treasury shares	(171)	(175)
Other reserves	1,501	1,687
Accumulated deficit	(3,287)	(3,290)
Equity attributable to owners of the parent	**2,699**	**2,805**
Non-current liabilities		
Exchangeable Notes	1,199	—
Lease liabilities	576	577
Accrued expenses and other liabilities	36	42
Provisions	2	2
	1,813	**621**
Current liabilities		
Trade and other payables	705	638
Income tax payable	11	9
Deferred revenue	439	380
Accrued expenses and other liabilities	1,707	1,748
Provisions	20	20
Derivative liabilities	87	105
	2,969	**2,900**
Total liabilities	**4,782**	**3,521**
Total equity and liabilities	**7,481**	**6,326**

Interim condensed consolidated statement of cash flows

(Unaudited)

(in € millions)

	Three months ended			Six months ended	
	June 30, 2021	March 31, 2021	June 30, 2020	June 30, 2021	June 30, 2020
Operating activities					
Net (loss)/income	(20)	23	(356)	3	(355)
Adjustments to reconcile net (loss)/income to net cash flows					
Depreciation of property and equipment and lease right-of-use assets	23	22	23	45	44
Amortization of intangible assets	8	8	5	16	10
Share-based payments expense	68	48	50	116	87
Finance income	(21)	(104)	(6)	(125)	(76)
Finance costs	25	31	294	56	306
Income tax expense/(benefit)	28	64	(99)	92	(59)
Other	3	2	2	5	6
Changes in working capital:					
(Increase)/decrease in trade receivables and other assets	(95)	15	(39)	(80)	(17)
Increase/(decrease) in trade and other liabilities	30	(67)	151	(37)	88
Increase in deferred revenue	17	37	34	54	30
Decrease in provisions	—	(1)	—	(1)	(1)
Interest paid on lease liabilities	(13)	(11)	(15)	(24)	(30)
Interest received	2	—	—	2	3
Income tax paid	(1)	(2)	(5)	(3)	(6)
Net cash flows from operating activities	**54**	**65**	**39**	**119**	**30**
Investing activities					
Business combinations, net of cash acquired	(42)	(59)	—	(101)	(137)
Purchases of property and equipment	(20)	(24)	(14)	(44)	(26)
Purchases of short term investments	(109)	(115)	(145)	(224)	(643)
Sales and maturities of short term investments	134	90	242	224	719
Change in restricted cash	—	—	2	—	2
Other	(2)	(6)	(7)	(8)	(21)
Net cash flows (used in)/from investing activities	**(39)**	**(114)**	**78**	**(153)**	**(106)**
Financing activities					
Payments of lease liabilities	(8)	(8)	(6)	(16)	(10)
Proceeds from exercise of stock options	26	51	101	77	178
Proceeds from issuance of Exchangeable Notes, net of costs	—	1,223	—	1,223	—
Payments for employee taxes withheld from restricted	(12)	(16)	(5)	(28)	(8)
Net cash flows from financing activities	**6**	**1,250**	**90**	**1,256**	**167**
Net increase in cash and cash equivalents	**21**	**1,201**	**207**	**1,222**	**91**
Cash and cash equivalents at beginning of the period	2,442	1,151	951	1,151	1,065
Net exchange (losses)/gains on cash and cash equivalents	(23)	90	(10)	67	(8)
Cash and cash equivalents at period end	**2,440**	**2,442**	**1,148**	**2,440**	**1,148**

Calculation of basic and diluted (loss)/earnings per share

(Unaudited)

(in € millions, except share and per share data)

	Three months ended			Six months ended	
	June 30, 2021	March 31, 2021	June 30, 2020	June 30, 2021	June 30, 2020
Basic (loss)/earnings per share					
Net (loss)/income attributable to owners of the parent	(20)	23	(356)	3	(355)
Share used in computation:					
Weighted-average ordinary shares outstanding	191,172,946	190,565,397	186,552,877	190,870,850	185,799,600
Basic (loss)/earnings per share attributable to owners of the parent	**(0.10)**	**0.12**	**(1.91)**	**0.02**	**(1.91)**
Diluted loss per share					
Net (loss)/income attributable to owners of the parent	(20)	23	(356)	3	(355)
Fair value gains on Exchangeable Notes	(17)	(49)	—	(66)	
Fair value gains on dilutive warrants	—	(22)	—	(21)	—
Net loss used in the computation of diluted loss per share	**(37)**	**(48)**	**(356)**	**(84)**	**(355)**
Shares used in computation:					
Weighted-average ordinary shares outstanding	191,172,946	190,565,397	186,552,877	190,870,850	185,799,600
Exchangeable Notes	2,911,500	938,150	—	1,919,670	—
Warrants	—	312,148	—	260,760	—
Diluted weighted-average ordinary shares	**194,084,446**	**191,815,695**	**186,552,877**	**193,051,280**	**185,799,600**
Diluted loss per share attributable to owners of the parent	**(0.19)**	**(0.25)**	**(1.91)**	**(0.44)**	**(1.91)**

COEX-
8.31

Reconciliation of IFRS to Non-IFRS Results

(Unaudited)

(in € millions, except percentages)

	Three months ended		Six months ended	
	June 30, 2021	**June 30, 2020**	**June 30, 2021**	**June 30, 2020**
IFRS revenue	2,331	1,889	4,478	3,737
Foreign exchange effect on 2021 revenue using 2020 rates	(81)		(195)	
Revenue excluding foreign exchange effect	2,412		4,673	
IFRS revenue year-over-year change %	23 %		20 %	
Revenue excluding foreign exchange effect year-over-year change %	28 %		25 %	
IFRS Premium revenue	2,056	1,758	3,987	3,458
Foreign exchange effect on 2021 Premium revenue using 2020 rates	(60)		(158)	
Premium revenue excluding foreign exchange effect	2,116		4,145	
IFRS Premium revenue year-over-year change %	17 %		15 %	
Premium revenue excluding foreign exchange effect year-over-year change %	20 %		20 %	
IFRS Ad-Supported revenue	275	131	491	279
Foreign exchange effect on 2021 Ad-Supported revenue using 2020 rates	(21)		(37)	
Ad-Supported revenue excluding foreign exchange effect	296		528	
IFRS Ad-Supported revenue year-over-year change %	110 %		76 %	
Ad-Supported revenue excluding foreign exchange effect year-over-year change %	126 %		89 %	

Gross Margin

(Unaudited)

(in € millions, except percentages)

	Three months ended June 30, 2021
Revenue	2,331
Cost of revenue	1,668
IFRS Gross Profit	**663**
IFRS Gross Margin	**28.4 %**
Adjustments:	
Prior period publishing royalty estimate	45
Non-IFRS Gross Profit	**618**
Non-IFRS Gross Margin	**26.5 %**

Operating Expenses

(Unaudited)

(in € millions, except percentages)

	Three months ended	
	June 30, 2021	**June 30, 2020**
IFRS Operating Expenses	651	646
Foreign exchange effect on 2021 operating expenses using 2020 rates	(27)	
Operating Expenses excluding foreign exchange effect	678	
IFRS Operating expense year-over-year change %	1 %	
Operating expenses excluding foreign exchange effect year-over-year change %	5 %	

Free Cash Flow

(Unaudited)

(in € millions)

	Three months ended			Six months ended	
	June 30, 2021	**March 31, 2021**	**June 30, 2020**	**June 30, 2021**	**June 30, 2020**
Net cash flows from operating activities	54	65	39	119	30
Capital expenditures	(20)	(24)	(14)	(44)	(26)
Change in restricted cash	—	—	2	—	2
Free Cash Flow	**34**	**41**	**27**	**75**	**6**

COEX-8.32

UNITED STATES
SECURITIES AND EXCHANGE COMMISSION

Washington, D.C. 20549

FORM 10-Q

☒ **QUARTERLY REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934**

For the quarterly period ended September 30, 2018

or

☐ **TRANSITION REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934**

For the transition period from to

Commission File Number: 001-35198

Pandora Media, Inc.

(Exact name of registrant as specified in its charter)

Delaware	**94-3352630**
(State or other jurisdiction of incorporation or organization)	(I.R.S. Employer Identification No.)
2100 Franklin Street, Suite 700 Oakland, CA	**94612**
(Address of principal executive offices)	(Zip Code)

(510) 451-4100

(Registrant's telephone number, including area code)

Indicate by check mark whether the registrant (1) has filed all reports required to be filed by Section 13 or 15(d) of the Securities Exchange Act of 1934 during the preceding 12 months (or for such shorter period that the registrant was required to file such reports), and (2) has been subject to such filing requirements for the past 90 days. Yes ☒ No ☐

Indicate by check mark whether the registrant has submitted electronically and posted to its corporate Web site, if any, every Interactive Data File required to be submitted and posted pursuant to Rule 405 of Regulation S-T (§232.405 of this chapter) during the preceding 12 months (or for such shorter period that the registrant was required to submit and post such files). Yes ☒ No ☐

Indicate by check mark whether the registrant is a large accelerated filer, an accelerated filer, a non-accelerated filer, or a smaller reporting company. See the definitions of "large accelerated filer," "accelerated filer" and "smaller reporting company" in Rule 12b-2 of the Exchange Act.

Large accelerated filer ☒	Accelerated filer ☐
Non-accelerated filer ☐	Smaller reporting company ☐
(Do not check if a smaller reporting company)	Emerging growth company ☐

If an emerging growth company, indicate by check mark if the registrant has elected not to use the extended transition period for complying with any new or revised financial accounting standards provided pursuant to Section 13(a) of the Exchange Act. ☐

Indicate by check mark whether the registrant is a shell company (as defined in Rule 12b-2 of the Exchange Act). Yes ☐ No ☒

The number of shares of registrant's common stock outstanding as of October 31, 2018 was: 269,775,191 .

Pandora Media, Inc.

FORM 10-Q Quarterly Report

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PART I. FINANCIAL INFORMATION

Item 1. Financial Statements

Pandora Media, Inc.
Condensed Consolidated Balance Sheets
(in thousands, except share and per share amounts) (unaudited)

	As of December 31, 2017	As of September 30, 2018
Assets		
Current assets		
Cash and cash equivalents	$ 499,597	$ 287,523
Short-term investments	1,250	100,119
Accounts receivable, net of allowance of $5,352 at December 31, 2017 and $7,855 at September 30, 2018	336,429	373,418
Prepaid content acquisition costs	55,668	32,219
Prepaid expenses and other current assets	19,220	25,673
Total current assets	912,164	818,952
Convertible promissory note receivable	35,471	—
Property and equipment, net	116,742	107,802
Goodwill	71,243	178,917
Intangible assets, net	19,409	55,557
Other long-term assets	11,293	11,575
Total assets	$ 1,166,322	$ 1,172,803
Liabilities, redeemable convertible preferred stock and stockholders' equity		
Current liabilities		
Accounts payable	$ 14,896	$ 28,406
Accrued liabilities	34,535	72,311
Accrued content acquisition costs	97,751	123,910
Accrued compensation	47,635	45,687
Deferred revenue	31,464	55,678
Total current liabilities	226,281	325,992
Long-term debt, net	273,014	255,272
Other long-term liabilities	23,500	25,660
Total liabilities	522,795	606,924
Redeemable convertible preferred stock: 480,000 shares issued and outstanding at December 31, 2017 and 480,000 at September 30, 2018	490,849	513,270
Stockholders' equity		
Common stock: 250,867,462 shares issued and outstanding at December 31, 2017 and 269,774,079 at September 30, 2018	25	27
Additional paid-in capital	1,422,221	1,632,178
Accumulated deficit	(1,269,351)	(1,579,125)
Accumulated other comprehensive loss	(217)	(471)
Total stockholders' equity	152,678	52,609
Total liabilities, redeemable convertible preferred stock and stockholders' equity	$ 1,166,322	$ 1,172,803

The accompanying notes are an integral part of the condensed consolidated financial statements.

Pandora Media, Inc.
Condensed Consolidated Statements of Operations
(in thousands, except per share amounts)
(unaudited)

	Three months ended September 30,		Nine months ended September 30,	
	2017	2018	2017	2018
Revenue				
Advertising	$ 275,741	$ 291,856	$ 777,253	$ 777,480
Subscription and other	84,414	125,772	218,192	344,175
Ticketing service	18,484	—	76,032	—
Total revenue	378,639	417,628	1,071,477	1,121,655
Cost of revenue				
Cost of revenue—Content acquisition costs	204,222	222,191	587,517	666,631
Cost of revenue—Other	27,287	39,308	80,259	98,884
Cost of revenue—Ticketing service	11,269	—	50,397	—
Total cost of revenue	242,778	261,499	718,173	765,515
Gross profit	135,861	156,129	353,304	356,140
Operating expenses				
Product development	39,469	42,553	120,290	118,788
Sales and marketing	107,588	124,760	378,581	374,351
General and administrative	48,171	47,273	150,650	142,521
Goodwill impairment	—	—	131,997	—
Contract termination (benefit) fees	(423)	—	23,044	—
Total operating expenses	194,805	214,586	804,562	635,660
Loss from operations	(58,944)	(58,457)	(451,258)	(279,520)
Interest expense	(7,592)	(6,768)	(22,377)	(20,799)
Other income, net	559	1,684	866	6,033
Total other expense, net	(7,033)	(5,084)	(21,511)	(14,766)
Loss before (provision for) benefit from income taxes	(65,977)	(63,541)	(472,769)	(294,286)
(Provision for) benefit from income taxes	(266)	(125)	(877)	6,933
Net loss	$ (66,243)	$ (63,666)	$ (473,646)	$ (287,353)
Net loss available to common stockholders	$ (84,562)	$ (71,251)	$ (506,493)	$ (309,774)
Basic and diluted net loss per common share	$ (0.34)	$ (0.27)	$ (2.10)	$ (1.19)
Weighted-average basic and diluted common shares	245,810	268,058	241,579	260,327

The accompanying notes are an integral part of the condensed consolidated financial statements.

Pandora Media, Inc.
Condensed Consolidated Statements of Comprehensive Loss
(in thousands)
(unaudited)

	Three months ended September 30,		Nine months ended September 30,	
	2017	2018	2017	2018
Net loss	$ (66,243)	$ (63,666)	$ (473,646)	$ (287,353)
Change in foreign currency translation adjustment	(729)	(243)	(600)	(241)
Change in net unrealized gain (loss) on marketable securities	8	(5)	50	(13)
Other comprehensive loss	(721)	(248)	(550)	(254)
Total comprehensive loss	$ (66,964)	$ (63,914)	$ (474,196)	$ (287,607)

The accompanying notes are an integral part of the condensed consolidated financial statements.

Pandora Media, Inc.
Condensed Consolidated Statements of Cash Flows
(in thousands)
(unaudited)

	Nine months ended September 30,	
	2017	2018
Operating activities		
Net loss	$ (473,646)	$ (287,353)
Adjustments to reconcile net loss to net cash used in operating activities		
Goodwill impairment	131,997	—
Loss on dispositions	9,459	2,173
Loss on extinguishment of convertible debt	—	14,600
Depreciation and amortization	49,121	44,167
Stock-based compensation	98,327	82,802
Amortization (accretion) of premium on investments	78	(1,200)
Accretion of discount on convertible promissory note receivable	(171)	(534)
Other operating activities	290	802
Amortization of debt discount	14,934	15,391
Interest income	(258)	(810)
Provision for bad debt	10,851	3,960
Changes in operating assets and liabilities		
Accounts receivable	(11,294)	(20,160)
Prepaid content acquisition costs	(33,842)	32,529
Prepaid expenses and other assets	(17,955)	(4,892)
Accounts payable, accrued and other current liabilities	(257)	26,193
Accrued content acquisition costs	6,063	26,159
Accrued compensation	(12,646)	550
Other long-term liabilities	(532)	(9,286)
Deferred revenue	5,618	14,914
Reimbursement of cost of leasehold improvements	5,236	894
Net cash used in operating activities	(218,627)	(59,101)
Investing activities		
Purchases of property and equipment	(12,861)	(7,290)
Internal-use software costs	(13,948)	(15,235)
Payments related to acquisition, net of cash acquired	—	(66,924)
Purchases of investments	—	(244,744)
Proceeds from maturities of investments	37,084	147,170
Proceeds from cancellation of convertible promissory note receivable	—	34,742
Proceeds from sales of subsidiaries, net of cash	122,912	—
Net cash provided by (used in) investing activities	133,187	(152,281)
Financing activities		
Proceeds from issuance of redeemable convertible preferred stock	480,000	—
Payments of issuance costs	(29,284)	(4,886)
Repayment of debt arrangements	(90,000)	—
Proceeds from employee stock purchase plan	8,012	4,156
Proceeds from exercise of stock options	7,836	779
Tax withholdings related to net share settlements of restricted stock units	—	(1,651)
Net cash provided by (used in) financing activities	376,564	(1,602)
Effect of exchange rate changes on cash, cash equivalents and restricted cash	237	(347)
Net increase (decrease) in cash, cash equivalents and restricted cash	291,361	(213,331)
Cash, cash equivalents and restricted cash at beginning of period	201,820	500,854
Cash, cash equivalents and restricted cash at end of period	$ 493,181	$ 287,523
Supplemental disclosures of cash flow information		
Purchases of property and equipment recorded in accounts payable and accrued liabilities	$ 2,294	$ 1,515

Cash paid during the period for interest	$	5,791	$	3,659
Accretion of preferred stock issuance costs	$	29,259	$	—
Stock dividend payable to preferred stockholders	$	3,588	$	22,421
Contingent consideration related to acquisition	$	—	$	5,000
Fair value of shares issued related to acquisition	$	—	$	72,956
Fair value of convertible promissory note received as partial consideration for sale of subsidiary	$	36,203	$	—
Employee stock purchase plan ("ESPP") purchases	$	11,387	$	7,169

The accompanying notes are an integral part of the condensed consolidated financial statements.

Pandora Media, Inc.
Notes to Condensed Consolidated Financial Statements
(unaudited)

1. Description of Business and Basis of Presentation

Pandora—Streaming Radio Service and On-Demand Music Services

Pandora is the world's most powerful music discovery platform, offering a personalized experience for each of our listeners wherever and whenever they want to listen to music—whether through mobile devices, car speakers or connected devices in the home.

Pandora is available as an ad-supported radio service, a radio subscription service called Pandora Plus and an on-demand subscription service called Pandora Premium. The majority of our listener hours occur on mobile devices, with the majority of our revenue generated from advertising on our ad-supported service on these devices. With billions of data points that help us understand our users' preferences, we offer both local and national advertisers the opportunity to deliver targeted messages to our listeners using a combination of audio, display and video advertisements. We also generate increasing revenue from subscriptions to Pandora Plus and Pandora Premium. We were incorporated as a California corporation in January 2000 and reincorporated as a Delaware corporation in December 2010. Our principal operations are located in the United States.

As used herein, "Pandora," "we," "our," "the Company" and similar terms include Pandora Media, Inc. and its subsidiaries, unless the context indicates otherwise.

Basis of Presentation

The interim unaudited condensed consolidated financial statements and accompanying notes have been prepared in accordance with United States generally accepted accounting principles ("U.S. GAAP") along with the instructions to Form 10-Q and Article 10 of Securities and Exchange Commission ("SEC") Regulation S-X, and include the accounts of Pandora and our wholly owned subsidiaries. All intercompany balances and transactions have been eliminated in consolidation. In the opinion of our management, the interim unaudited condensed consolidated financial statements include all adjustments, which include only normal recurring adjustments, necessary for the fair presentation of our financial position for the periods presented. These interim unaudited condensed consolidated financial statements are not necessarily indicative of the results expected for the full fiscal year or for any subsequent period and should be read in conjunction with the audited consolidated financial statements and related notes included in our Annual Report on Form 10-K for the year ended December 31, 2017 .

Certain changes in presentation have been made to conform the prior period presentation to current period reporting. We have shown the changes in the total of cash, cash equivalents and restricted cash in the Condensed Consolidated Statements of Cash Flows.

Use of Estimates

The preparation of financial statements in conformity with U.S. GAAP requires management to make certain estimates, judgments and assumptions that affect the reported amounts of assets and liabilities and the related disclosures at the date of the financial statements, as well as the reported amounts of revenue and expenses during the periods presented. Estimates are used in several areas including, but not limited to determining accrued content acquisition costs, amortization of minimum guarantees under content acquisition agreements, selling prices for elements sold in arrangements with multiple performance obligations, the allowance for doubtful accounts, the fair value of stock options, the ESPP, the provision for (benefit from) income taxes, fair value of convertible debt, fair value of contingent consideration, fair value of acquired intangible assets and goodwill and the useful lives of acquired intangible assets. To the extent there are material differences between these estimates, judgments or assumptions and actual results, our financial statements could be affected. In many cases, the accounting treatment of a particular transaction is specifically dictated by U.S. GAAP and does not require management's judgment in its application. There are also areas in which management's judgment in selecting among available alternatives would not produce a materially different result.

2. Summary of Significant Accounting Policies

Other than discussed below, there have been no material changes to our significant accounting policies as compared to those described in our Annual Report on Form 10-K for the year ended December 31, 2017 .

Revenue Recognition

Refer to Note 3 "Revenues" in the Notes to Condensed Consolidated Financial Statements for our Revenue Recognition policy.

Business Combinations, Goodwill and Intangible Assets, net

We allocate the fair value of purchase consideration to the tangible assets acquired, liabilities assumed, intangible assets acquired based on their estimated fair values. The excess of the fair value of purchase consideration over the fair values of these identifiable assets and liabilities is recorded as goodwill. Additionally, any contingent consideration is recorded at fair value on the acquisition date and classified as a liability. Such valuations require management to make significant estimates and assumptions, especially with respect to intangible assets and contingent consideration. Significant estimates in valuing certain intangible assets include, but are not limited to, future expected cash flows from acquired users, acquired technology, and trade names from a market participant perspective, useful lives and discount rates. Management's estimates of fair value are based upon assumptions believed to be reasonable, but which are inherently uncertain and unpredictable and, as a result, actual results may differ from estimates. During the measurement period, we may record adjustments to the assets acquired and liabilities assumed, with the corresponding offset to goodwill. Upon the conclusion of the measurement period, any subsequent adjustments are recorded to earnings.

We test goodwill and intangible assets with indefinite useful lives for impairment at least annually, or more frequently if events or changes in circumstances indicate that the assets may be impaired. We perform our annual goodwill and intangible asset impairment tests in the fourth quarter of each year.

Acquired finite-lived intangible assets are amortized over the estimated useful lives of the assets, which range from three to eleven years . Acquired finite-lived intangible assets consist primarily of patents, customer relationships, developed technology and trade names resulting from business combinations. We evaluate the recoverability of our intangible assets for potential impairment whenever events or circumstances indicate that the carrying amount of such assets may not be recoverable. Recoverability of these assets is measured by a comparison of the carrying amounts to the future undiscounted cash flows the assets are expected to generate. If such review indicates that the carrying amount of intangible assets is not recoverable, the carrying amount of such assets is reduced to the fair value.

In addition to the recoverability assessment, we routinely review the remaining estimated useful lives of finite-lived intangible assets. If we reduce the estimated useful life assumption for any asset, the remaining unamortized balance would be amortized over the revised estimated useful life. We record the amortization of intangible assets to the financial statement line item in our consolidated statement of operations that the asset directly relates to. To the extent that purchased intangibles are used in revenue generating activities, we record the amortization of these intangible assets to cost of revenue.

Convertible Senior Notes due 2020 ("2020 Notes")

We allocate the principal amount of our 2020 Notes between the liability and equity components. The value assigned to the debt components of the 2020 Notes is the estimated fair value as of the issuance date of similar debt without the conversion feature. The difference between the cash proceeds and this estimated fair value represents the value which has been assigned to the equity component. The equity component is recorded to additional paid-in capital and is not remeasured as long as it continues to meet the conditions for equity classification. The excess of the principal amount of the Notes over the carrying amount of the liability component is recorded as a debt discount, and is being amortized to interest expense using the effective interest method through the December 1, 2020 maturity date. We allocate the total amount of transaction costs incurred to the liability and equity components.

Convertible Senior Notes due 2023 ("2023 Notes")

We allocate the principal amount of our 2023 Notes between the liability and equity components. The value assigned to the debt components of the 2023 Notes is the estimated fair value as of the issuance date of similar debt without the conversion feature. The difference between the fair value of the total instrument and this estimated fair value of the debt component represents the value which has been assigned to the equity component. The equity component is recorded to additional paid-in capital and is not remeasured as long as it continues to meet the conditions for equity classification. The excess of the principal amount of the Notes over the carrying amount of the liability component is recorded as a debt discount, and is being amortized

to interest expense using the effective interest method through the December 1, 2023 maturity date. We allocate the total amount of transaction costs incurred to the liability and equity components.

Concentration of Credit Risk

For the three and nine months ended September 30, 2017 and 2018 , we had no customers that accounted for more than 10% of our total revenue. As of December 31, 2017 and September 30, 2018 , we had no customers that accounted for more than 10% of our total accounts receivable.

Recently Issued Accounting Standards

In February 2016, the FASB issued Accounting Standards Update No. 2016-02, Leases (Topic 842) ("ASU 2016-02"). ASU 2016-02 requires lessees to put most leases on their balance sheets and recognize expenses on their income statements and also eliminates the real estate-specific provisions for all entities. The guidance is effective for fiscal years beginning after December 15, 2018, including interim periods within those fiscal years. We expect to adopt ASU 2016-02 as of January 1, 2019 using the modified retrospective method. We are in the process of evaluating the impact of ASU 2016-02 on our consolidated financial statements and expect there to be a material impact related to the recognition of new right of use assets and lease liabilities on our balance sheet for operating leases.

In June 2016, the FASB issued Accounting Standards Update No. 2016-13, Credit Losses—Measurement of Credit Losses on Financial Instruments ("ASU 2016-13"). ASU 2016-13 will replace today's incurred loss approach with an expected loss model for instruments measured at amortized cost and require entities to record allowances for available-for-sale debt securities rather than reduce the carrying amount. The guidance is effective for fiscal years beginning after December 15, 2019, and interim periods within that fiscal year, although early adoption is permitted. We are currently evaluating the impact that this standard update will have on our condensed consolidated financial statements.

In June 2018, the FASB issued Accounting Standards Update No. 2018-07, Improvements to Nonemployee Share-Based Payment Accounting ("ASU 2018-07"), which simplifies the accounting for share-based payments granted to nonemployees for goods and services. Under ASU 2018-07, certain guidance on such payments to nonemployees would be aligned with the requirements for share-based payments granted to employees. The guidance is effective for fiscal years beginning after December 15, 2018, and interim periods within that fiscal year, although early adoption is permitted. As we do not have material nonemployee awards, we do not expect the adoption of ASU 2018-07 to have a material impact on our condensed consolidated financial statements.

Recently Adopted Accounting Standards

In May 2014, the FASB issued Accounting Standards Update No. 2014-09, Revenue from Contracts with Customers (Topic 606) ("ASU 2014-09"), which amends the existing accounting standards for revenue recognition. ASU 2014-09 outlines a single comprehensive model for entities to use in accounting for revenue. Under the guidance, revenue is recognized when a company transfers promised goods or services to customers in an amount that reflects the consideration to which the company expects to be entitled in exchange for those goods or services. We have adopted ASU 2014-09 as of January 1, 2018 using the modified retrospective method applied to those contracts which were not completed as of January 1, 2018. Revenues and contract assets or liabilities for contracts completed prior to January 1, 2018 are presented under Topic 605, and revenues and contract assets and liabilities from contracts which were not completed or started after December 31, 2017 are presented under Topic 606. The adoption of this guidance does not have a material impact on our consolidated financial statements. Refer to Note 3 "Revenues" in the Notes to Condensed Consolidated Financial Statements for further information.

In August 2016, the FASB issued Accounting Standards Update No. 2016-15, Statement of Cash Flows (Topic 230) Classification of Certain Cash Receipts and Cash Payments ("ASU 2016-15"), which eliminates the diversity in practice related to the classification of certain cash receipts and payments for debt prepayment or extinguishment costs, the maturing of a zero-coupon bond, the settlement of contingent liabilities arising from a business combination, proceeds from insurance settlements, distributions from certain equity method investees and beneficial interests obtained in a financial asset securitization. ASU 2016-15 designates the appropriate cash flow classification, including requirements to allocate certain components of these cash receipts and payments among operating, investing and financing activities. We adopted this guidance effective January 1, 2018, using the retrospective transition approach for all periods presented. The adoption of ASU 2016-15 did not have a material impact on our condensed consolidated financial statements.

In November 2016, the FASB issued Accounting Standards Update No. 2016-18, Statement of Cash Flows (Topic 230), Restricted Cash ("ASU 2016-18"). ASU 2016-18 requires amounts generally described as restricted cash and restricted cash equivalents be included with cash and cash equivalents when reconciling the total beginning and ending amounts for the periods shown on the statement of cash flows. The guidance is effective retrospectively for fiscal years beginning after December 15, 2017, and interim periods within that fiscal year. We adopted this guidance effective January 1, 2018, using the retrospective transition approach for all periods presented. The adoption of ASU 2016-18 did not have a material impact on our condensed consolidated financial statements.

In January 2017, the FASB issued Accounting Standards Update No. 2017-01, Business Combinations (Topic 805): Clarifying the Definition of a Business (ASU 2017-01). ASU 2017-01 revises the definition of a business and provides new guidance in evaluating when a set of transferred assets and activities is considered a business. We adopted this guidance effective January 1, 2018, using the prospective approach. The adoption of ASU 2017-01 did not have a material impact on our condensed consolidated financial statements.

3. Revenues

Adoption of ASC Topic 606, "Revenue from Contracts with Customers"

The new accounting standard under ASC 606 became effective for all public companies with fiscal years beginning after December 15, 2017. On January 1, 2018, we adopted ASC 606 using the modified retrospective method. This method required retrospective application of the new accounting standard to all unfulfilled contracts that were outstanding as of January 1, 2018. Revenues and contract assets or liabilities for contracts completed prior to January 1, 2018, including ticketing revenue related to Ticketfly, are presented under Topic 605, and revenues and contract assets and liabilities from contracts which were not completed or started after December 31, 2017 are presented under Topic 606.

We recorded an immaterial adjustment to opening accumulated deficit as of January 1, 2018 due to the cumulative impact of adopting Topic 606, primarily related to deferred revenue.

Revenue Recognition

Revenues are recognized when a contract with a customer exists, and the control of the promised services are transferred to our customers, in an amount that reflects the consideration we expect to receive in exchange for those services. Substantially all of our revenues are generated from contracts with customers in the United States.

Gross Versus Net Revenue Recognition

We report revenue on a gross or net basis based on management’s assessment of whether we act as a principal or agent in the transaction. To the extent we act as the principal, revenue is reported on a gross basis unless we are unable to determine the amount on a gross basis, in which case we report revenue on a net basis. The determination of whether we act as a principal or an agent in a transaction is based on an evaluation of whether we control the good or service prior to transfer to the customer. We have determined that we act as the principal in all of our revenue streams.

Advertising Revenue

We generate advertising revenue primarily from audio, display and video advertising. We generate the majority of our advertising revenue through the delivery of advertising impressions sold on a cost per thousand basis (“CPM”). We also offer advertising on other units of measure, such as cost per engagement (“CPE”) and cost per view ("CPV"), under which an advertiser pays us based on the number of times a listener engages with an ad. We consider the performance obligation as the ad insertion on the order, which is a series type performance obligation.

We determine that a contract exists when we have an agreed-to insertion order or a fully executed customer-specific agreement. The duration of our contracts is generally less than one year . Revenue is recognized as performance obligations are satisfied, which generally occurs as ads are delivered through our platform. We generally recognize revenue based on delivery information from our campaign trafficking systems. Certain advertising arrangements include performance obligations other than

advertising, such as music events. For these performance obligations, revenue is recognized when the customer obtains control of the promised services, such as when a music event occurs.

Certain customers may receive cash-based incentives or rebates, which are accounted for as variable consideration in the determination of the transaction price. We use the expected value method to estimate the value of such variable consideration to include in the transaction price and reflect changes to such estimates in the period in which they occur. The amount of variable consideration included in revenues is limited to the extent that it is probable that the amount will not be subject to a significant reversal when the uncertainty associated with the variable consideration is subsequently resolved.

Certain contracts include added value ("AV") elements, under which the customer may receive credits for free advertising services in exchange for advertising spend commitments, either based on total contract amount, defined spend tiers or overall commitments across multiple contracts. We have determined that these AV elements represent a material right to the customer, and therefore are treated as distinct performance obligations. We determine an estimated selling price for these items and include them in the allocation of the transaction price of a contract or series of contracts, as applicable.

Our payment terms vary by the type and location of customers. The time between satisfaction of performance obligations and when payment is due does not exceed one year . For certain services and customer types, upon the execution of a contract, we may require payment before the services are delivered to the customer. These payments are recorded as contract liabilities in our condensed consolidated financial statements.

Arrangements with multiple performance obligations—Advertising revenue

Our contracts with customers generally include multiple performance obligations. For such arrangements, we allocate revenue to each performance obligation based on its relative standalone selling price. We generally determine standalone selling prices based on an analysis of the historical prices charged to customers, or by estimating the standalone selling price using expected cost plus margin.

Subscription and Other Revenue

Pandora is also available as a radio subscription service called Pandora Plus and an on-demand subscription service called Pandora Premium. Pandora Plus is a paid, ad-free subscription version of the Pandora service that includes replays, additional skipping, offline listening, higher quality audio on supported devices and longer timeout-free listening.

The features of Pandora Plus are also included in Pandora Premium. Pandora Premium is a paid, ad-free version of the Pandora service that offers a unique, on-demand experience, providing users with the ability to search, play and collect songs and albums, build playlists on their own or with the tap of a button the app will automatically generate a playlist based on the user's listening activity.

We generate revenue for these subscription services on both a direct basis and through subscriptions sold through certain third-party mobile device app stores. For subscriptions sold through third-party mobile device app stores, the subscriber executes a click-through agreement with Pandora outlining the terms and conditions between Pandora and the subscriber upon purchase of the subscription. The mobile device app stores promote the Pandora app through their e-store, process payments for subscriptions, and retain a percentage of revenue as a fee. We report this revenue gross of the fee retained by the mobile device app stores, as the subscriber is Pandora's customer in the contract and Pandora controls the service prior to the transfer to the subscriber.

Subscription revenue is a series type performance obligation and is recognized net of sales tax amounts collected from subscribers. The enforceable rights in monthly subscription contracts are the monthly service period, whereas the annual subscriptions are cancelable at any time. For monthly subscriptions where there are no cancellation provisions, we recognize revenue on a straight-line basis over the monthly service term. Because of the cancellation clauses for the annual subscriptions, the duration of these contracts is daily, and revenue for these contracts is recognized on a daily ratable basis. Historically, cancellation rates have been immaterial.

Subscription revenue from monthly subscriptions sold indirectly through mobile device app stores may be subject to partners' refund or cancellation terms. Revenues are recognized net of any adjustments for variable consideration, including refunds and other fees, as reported by the partners.

Our payment terms vary based on whether the subscription is sold on a direct basis or through mobile device app stores. Subscriptions sold on a direct basis require payment before the services are delivered to the customer. The payment terms for subscriptions sold through mobile device app stores vary and generally range from 30 to 60 days .

Contract Assets and Liabilities

We record those services which we have delivered and have a right to invoice as a contract asset. We record any payments which are received or due in advance of our performance, and where a contract exists, as contract liabilities. The increase in the deferred revenue balance as of September 30, 2018 is primarily driven by cash payments received or due in advance of satisfying our performance obligations, offset by $29.4 million of revenues recognized that were included in the deferred revenue balance as of December 31, 2017.

Practical Expedients and Exemptions

We generally expense sales commissions when incurred because the duration of the contracts for which we pay commissions are less than one year. These costs are included in the sales and marketing line item of our Condensed Consolidated Statements of Operations.

We do not disclose the value of unsatisfied performance obligations for (i) contracts with an original expected length of one year or less and (ii) contracts for which we recognize revenue at the amount to which we have the right to invoice for services performed.

4. Cash, Cash Equivalents and Investments

Cash, cash equivalents and investments consisted of the following:

	As of December 31, 2017	As of September 30, 2018
	(in thousands)	
Cash and cash equivalents		
Cash	$ 146,294	$ 134,862
Money market funds	353,303	51,273
Commercial paper	—	89,387
Certificates of deposit	—	7,504
U.S. government and government agency debt securities	—	4,497
Total cash and cash equivalents	$ 499,597	$ 287,523
Short-term investments		
Commercial paper	$ —	$ 80,915
Corporate debt securities	1,250	19,204
Total short-term investments	$ 1,250	$ 100,119
Cash, cash equivalents and investments	$ 500,847	$ 387,642

Our short-term investments have maturities of twelve months or less and are classified as available-for-sale.

The following table summarizes our available-for-sale securities' adjusted cost, gross unrealized losses and fair value by significant investment category as of September 30, 2018 . We had no gross unrealized gains as of September 30, 2018 . As of December 31, 2017 , the adjusted cost and fair value by significant investment category are the same.

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	As of September 30, 2018		
	Adjusted Cost	Unrealized Losses	Fair Value
	(in thousands)		
Money market funds	$ 51,273	$ —	$ 51,273
Commercial paper	170,302	—	170,302
Certificates of deposit	7,504	—	7,504
Corporate debt securities	19,217	(13)	19,204
U.S. government and government agency debt securities	4,497	—	4,497
Total cash equivalents and marketable securities	$ 252,793	$ (13)	$ 252,780

All of our investments have maturities of twelve months or less as of December 31, 2017 and September 30, 2018 .

The unrealized losses on our available-for-sale securities as of September 30, 2018 were not significant. We had no securities that had been in a continuous unrealized loss position for greater than 12 months as of December 31, 2017 and September 30, 2018 . As of September 30, 2018 , we considered the decreases in market value on our available-for-sale securities to be temporary in nature and did not consider any of our investments to be other-than-temporarily impaired. During the three and nine months ended September 30, 2018 , we did no t recognize any impairment charges. There were no sales of available-for-sale securities during the three and nine months ended September 30, 2018 .

Our investment policy requires investments to be investment grade, primarily rated "A1" by Standard & Poor’s or "P1" by Moody’s or better for short-term investments and rated "A" by Standard & Poor’s or "A2" by Moody’s or better for long-term investments, with the objective of minimizing the potential risk of principal loss. In addition, the investment policy limits the amount of credit exposure to any one issuer.

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Notes to Condensed Consolidated Financial Statements - Continued
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5. Fair Value

We record cash equivalents and investments at fair value. Fair value is an exit price, representing the amount that would be received from the sale of an asset or paid to transfer a liability in an orderly transaction between market participants. As such, fair value is a market-based measurement that should be determined based on assumptions that market participants would use in pricing an asset or liability. Fair value measurements are required to be disclosed by level within the following fair value hierarchy:

Level 1 — Inputs are unadjusted, quoted prices in active markets for identical assets or liabilities at the measurement date.

Level 2 — Inputs (other than quoted prices included in Level 1) are either directly or indirectly observable for the asset or liability through correlation with market data at the measurement date and for the duration of the instrument's anticipated life.

Level 3 — Inputs lack observable market data to corroborate management's estimate of what market participants would use in pricing the asset or liability at the measurement date. Consideration is given to the risk inherent in the valuation technique and the risk inherent in the inputs to the model.

When determining fair value, whenever possible we use observable market data and rely on unobservable inputs only when observable market data is not available.

The following fair value hierarchy tables categorize information regarding our financial assets and liabilities measured at fair value on a recurring basis at December 31, 2017 and September 30, 2018 :

	As of December 31, 2017		
	Fair Value Measurement Using		
	Quoted Prices in Active Markets for Identical Instruments (Level 1)	Significant Other Observable Inputs (Level 2)	Total
	(in thousands)		
Assets			
Money market funds	$ 353,303	$ —	$ 353,303
Corporate debt securities	—	1,250	1,250
Total assets measured at fair value	$ 353,303	$ 1,250	$ 354,553

	As of September 30, 2018		
	Fair Value Measurement Using		
	Quoted Prices in Active Markets for Identical Instruments (Level 1)	Significant Other Observable Inputs (Level 2)	Total
	(in thousands)		
Assets			
Money market funds	$ 51,273	$ —	$ 51,273
Commercial paper	—	170,302	170,302
Certificate of deposit	—	7,504	7,504
Corporate debt securities	—	19,204	19,204
U.S. government and government agency debt securities	—	4,497	4,497
Total assets measured at fair value	$ 51,273	$ 201,507	$ 252,780

Our cash equivalents and short-term investments, excluding money market funds, are classified as Level 2 within the fair value hierarchy because they are valued using professional pricing sources for identical or comparable instruments, rather than direct observations of quoted prices in active markets.

As of December 31, 2017 and September 30, 2018 , we held no Level 3 assets or liabilities measured on a recurring basis. The fair value of our convertible subordinated promissory note receivable ("Convertible Promissory Note") was calculated on a nonrecurring basis as of September 1, 2017 and was classified as a Level 3 measurement within the fair value hierarchy as of December 31, 2017 . The Convertible Promissory Note was canceled on March 30, 2018. Refer to Note 10 "Convertible Promissory Note Receivable" in the Notes to Condensed Consolidated Financial Statements for further details on the cancellation of the Convertible Promissory Note.

The fair value of our 2023 Notes was calculated on a nonrecurring basis as of May 24, 2018. Refer to Note 11, "Debt Instruments" , in the Notes to Condensed Consolidated Financial Statements for the carrying amount and estimated fair value of our 2023 Notes and 2020 Notes (collectively the "Notes"), which are not recorded at fair value as of September 30, 2018 .

6. Commitments and Contingencies

Minimum Guarantees and Other Provisions—Content Acquisition Costs

Certain of our content acquisition agreements contain minimum guarantees, and require that we make upfront minimum guarantee payments. During the three and nine months ended September 30, 2018 , we prepaid $148.6 million and $321.3 million in content acquisition costs related to minimum guarantees. As of September 30, 2018 , we have future minimum guarantee commitments of $ 183.7 million , of which $ 57.7 million will be paid in 2018 and the remainder will be paid thereafter. On a quarterly basis, we record the greater of the cumulative actual content acquisition costs incurred or the cumulative minimum guarantee based on forecasted usage for the minimum guarantee period. The minimum guarantee period is the period of time that the minimum guarantee relates to, as specified in each agreement, which may be annual or a longer period. The cumulative minimum guarantee, based on forecasted usage, considers factors such as listening hours, revenue, subscribers and other terms of each agreement that impact our expected attainment or recoupment of the minimum guarantees based on the relative attribution method.

Several of our content acquisition agreements also include provisions related to the royalty payments and structures of those agreements relative to other content licensing arrangements, which, if triggered, could cause our payments under those agreements to escalate. In addition, record labels, publishers and performing rights organizations ("PROs") with whom we have entered into direct license agreements have the right to audit our content acquisition payments, and any such audit could result in disputes over whether we have paid the proper content acquisition costs. However, as of September 30, 2018 , we do not believe it is probable that these provisions of our agreements discussed above will, individually or in the aggregate, have a material adverse effect on our business, financial position, results of operations or cash flows.

Legal Proceedings

We have been in the past, and continue to be, a party to various legal proceedings, which have consumed, and may continue to consume, financial and managerial resources. We record a liability when we believe that it is both probable that a loss has been incurred and the amount can be reasonably estimated. Our management periodically evaluates developments that could affect the amount, if any, of liability that we have previously accrued and make adjustments as appropriate. Determining both the likelihood and the estimated amount of a loss requires significant judgment, and management’s judgment may be incorrect. We do not believe the ultimate resolution of any pending legal matters is likely to have a material adverse effect on our business, financial position, results of operations or cash flows.

Pre-1972 copyright litigation

On October 2, 2014, Flo & Eddie Inc. filed a class action suit against Pandora Media Inc. in the federal district court for the Central District of California. The complaint alleges misappropriation and conversion in connection with the public performance of sound recordings recorded prior to February 15, 1972. On December 19, 2014, Pandora filed a motion to strike the complaint pursuant to California’s Anti-Strategic Lawsuit Against Public Participation ("Anti-SLAPP") statute, which was appealed to the Ninth Circuit Court of Appeals. The district court litigation is currently stayed pending the Ninth Circuit’s decision. On December 8, 2016, the Ninth Circuit heard oral arguments on the Anti-SLAPP motion. On March 15, 2017, the

Ninth Circuit requested certification to the California Supreme Court on the substantive legal questions. The California Supreme Court has accepted certification and has received all written briefing on the case, but has not yet scheduled oral argument.

Between September 14, 2015 and October 19, 2015, Arthur and Barbara Sheridan filed separate class action suits against the Company in the federal district courts for the Northern District of California and the District of New Jersey. The complaints allege a variety of violations of common law and state copyright statutes, common law misappropriation, unfair competition, conversion, unjust enrichment and violation of rights of publicity arising from allegations that we owe royalties for the public performance of sound recordings recorded prior to February 15, 1972. The actions in California and New Jersey are currently stayed pending the Ninth Circuit's decision in *Flo & Eddie, Inc. v. Pandora Media, Inc* .

On September 7, 2016, Ponderosa Twins Plus One et al. filed a class action suit against the Company alleging claims similar to that of *Flo & Eddie, Inc. v. Pandora Media Inc* . The action is currently stayed in the Northern District of California pending the Ninth Circuit's decision in *Flo & Eddie, Inc. v. Pandora Media, Inc* .

The outcome of any litigation is inherently uncertain. Except as noted above, we do not believe it is probable that the final outcome of the matters discussed above will, individually or in the aggregate, have a material adverse effect on our business, financial position, results of operations or cash flows; however, in light of the uncertainties involved in such matters, there can be no assurance that the outcome of each case or the costs of litigation, regardless of outcome, will not have a material adverse effect on our business.

Indemnification Agreements, Guarantees and Contingencies

In the ordinary course of business, we are party to certain contractual agreements under which we may provide indemnifications of varying scope, terms and duration to customers, vendors, lessors, business partners and other parties with respect to certain matters, including, but not limited to, losses arising out of breach of such agreements, services to be provided by us or from intellectual property infringement claims made by third parties. In addition, we have entered into indemnification agreements with directors and certain officers and employees that will require us, among other things, to indemnify them against certain liabilities that may arise by reason of their status or service as directors, officers or employees. We have not incurred, do not anticipate incurring and therefore have not accrued for, any material costs related to such indemnification provisions.

While the outcome of these matters cannot be predicted with certainty, we do not believe that the outcome of any claims under indemnification arrangements will have a material adverse effect on our business, financial position, results of operations or cash flows.

7. Business Combination

On May 25, 2018, we completed the acquisition of AdsWizz Inc. ("AdsWizz"), a leading digital audio ad technology company with a comprehensive digital audio software suite of solutions that connects audio publishers to the advertising community, for an aggregate purchase price of $146.6 million in a combination of cash and common stock. Cash paid was $73.7 million and 9,588,312 shares of the Company's common stock were issued. The purchase price includes a contingent consideration of $5.0 million , measured at its fair value, which is dependent on achievement of certain business milestones. In addition to the purchase price, unvested options of AdsWizz were converted into unvested options to acquire our common stock.

Upon acquisition, AdsWizz became a wholly owned subsidiary of Pandora. The acquisition was accounted for as a business combination, and the financial results of AdsWizz are included in our consolidated financial statements from the date of acquisition. Pro forma results of operations related to the acquisition have not been presented because it is not material to our consolidated statements of operations.

The following table summarizes the allocation of estimated fair values of the net assets acquired during the nine months ended September 30, 2018 , including the related estimated useful lives, where applicable:

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	Estimated fair value	Estimated useful life in years
	(in thousands)	
Finite-lived intangible assets		
Developed technology	$ 32,000	4
Customer relationships	12,000	4
Trade name	600	4
Total finite-lived intangible assets	$ 44,600	
Tangible assets acquired, net	1,581	
Deferred tax liabilities	(7,216)	
Net assets acquired	$ 38,965	
Goodwill	107,673	
Total fair value consideration	$ 146,638	

The fair value of assets acquired and liabilities assumed from our acquisition of AdsWizz was based on a preliminary valuation and our estimates and assumptions are subject to change. We will recognize any subsequent adjustments to the purchase price prospectively in the period in which the adjustments are determined. A portion of the purchase price is held in escrow and may be recovered from this escrow amount.

Goodwill generated from the AdsWizz acquisition is primarily attributable to expected synergies from future growth and strategic advances in the digital audio ad technology industry. Goodwill generated during the period is not deductible for tax purposes.

8. Goodwill and Intangible Assets

During the nine months ended September 30, 2018 , we completed the acquisition of AdsWizz. The changes in the carrying amount of goodwill for the nine months ended September 30, 2018 , are as follows:

	9/30/2018
	(in thousands)
Balance as of December 31, 2017	$ 71,243
Goodwill related to acquisition of AdsWizz	107,674
Balance as of September 30, 2018	$ 178,917

The following summarizes information regarding the gross carrying amounts and accumulated amortization of intangible assets:

	As of December 31, 2017			As of September 30, 2018		
	Gross Carrying Amount	Accumulated Amortization	Net Carrying Value	Gross Carrying Amount	Accumulated Amortization	Net Carrying Value
	(in thousands)			(in thousands)		
Finite-lived intangible assets						
Patents	$ 8,030	$ (3,289)	$ 4,741	$ 8,030	$ (3,839)	$ 4,191
Developed technology	27,950	(13,608)	14,342	59,950	(20,160)	39,790
Customer relationships	940	(940)	—	12,940	(1,988)	10,952
Trade names	1,320	(994)	326	1,920	(1,296)	624
Total finite-lived intangible assets	$ 38,240	$ (18,831)	$ 19,409	$ 82,840	$ (27,283)	$ 55,557
Note: Amounts may not recalculate due to rounding						

Amortization expense of intangible assets was $1.9 million and $4.3 million for the three months ended September 30, 2017 and 2018 . Amortization expense of intangible assets was $11.2 million and $8.5 million for the nine months ended September 30, 2017 and 2018 .

The following is a schedule of future amortization expense related to finite-lived intangible assets as of September 30, 2018 .

	As of September 30, 2018
	(in thousands)
Remainder of 2018	$ 4,299
2019	16,696
2020	16,401
2021	11,877
2022	5,193
Thereafter	1,091
Total future amortization expense	$ 55,557

9. Dispositions

On September 1, 2017, we completed the sale of Ticketfly, our ticketing service segment, to Eventbrite Inc. ("Eventbrite") for an aggregate unadjusted purchase price of $200.0 million . The aggregate unadjusted purchase price consisted of $150.0 million in cash and a $50.0 million Convertible Promissory Note, which were paid and issued at the closing of the transaction. The Convertible Promissory Note was recorded at its fair value at the date of sale, which resulted in a discount of $13.8 million . The aggregate purchase price was further reduced by $4.8 million in costs to sell and $7.5 million in working capital adjustments and certain indemnification provisions, for a net purchase price of $174.0 million .

On March 30, 2018, we amended our Membership Interest Purchase Agreement ("MIPA") with Eventbrite which resulted in the cancellation of our Convertible Promissory Note for a cancellation fee of $34.7 million . Upon completion of the cancellation of the Convertible Promissory Note, the remaining unpaid principal and interest balance were forgiven.

In the nine months ended September 30, 2018 , we recognized a loss on sale of $2.1 million related to the cancellation of the Convertible Promissory Note. The loss is included in the general and administrative line item of our Condensed Consolidated Statements of Operations and was based on the cancellation fee of $34.7 million .

10. Convertible Promissory Note Receivable

On September 1, 2017, we completed the sale of Ticketfly, our ticketing service segment, to Eventbrite for an aggregate unadjusted purchase price of $200.0 million . The aggregate unadjusted purchase price consists of $150.0 million in cash and a $50.0 million Convertible Promissory Note, which were paid and issued at the closing of the transaction. On March 30, 2018, we amended our MIPA with Eventbrite which resulted in the cancellation of our Convertible Promissory Note for a cancellation fee of $34.7 million . Refer to Note 9, "Dispositions" in the Notes to Condensed Consolidated Financial Statements for further details on the cancellation of the Convertible Promissory Note.

Prior to the cancellation, the Convertible Promissory Note was due five years from its issuance date (the "Convertible Promissory Note Maturity Date") and accrued interest at a rate of 6.5% per annum, payable quarterly in cash or in-kind for the first year at the discretion of Eventbrite, and in cash thereafter. Prior to the Convertible Promissory Note Maturity Date, the Convertible Promissory Note was convertible at our option into shares of Eventbrite’s common stock.

The Convertible Promissory Note was recorded at its fair value of $36.2 million as of the issuance date of September 1, 2017, which resulted in a discount of $13.8 million . The note was further reduced by $2.5 million in purchase price

adjustments. As of March 30, 2018 ("Cancellation Date"), the balance of the Convertible Promissory Note also included $1.9 million in interest receivable and $1.2 million in accretion of the discount, for a total carrying value of $36.8 million .

The discount on the Convertible Promissory Note was being amortized to interest income using the effective interest method over the period from the date of issuance through the Cancellation Date. The following table outlines the effective interest rate, contractually stated interest income and amortization of the discount for the Convertible Promissory Note for the period from January 1, 2018 through the Cancellation Date.

	(in thousands except for effective interest rate)	
Effective interest rate		14.73%
Contractually stated interest income	$	1,892
Amortization of discount	$	1,221

11. Debt Instruments

Long-term debt, net consisted of the following:

	As of December 31, 2017	As of September 30, 2018
	(in thousands)	
1.75% convertible senior notes due 2020	$ 345,000	$ 152,100
Unamortized discount and deferred issuance costs	(71,986)	(24,453)
Carrying value of 1.75% convertible senior notes due 2020	$ 273,014	$ 127,647
1.75% convertible senior notes due 2023	—	192,900
Unamortized discount and deferred issuance costs	—	(65,275)
Carrying value of 1.75% convertible senior notes due 2023	$ —	$ 127,625
Long-term debt, net	$ 273,014	$ 255,272

Convertible Debt Offering Due 2020

On December 9, 2015, we completed an unregistered Rule 144A offering for the issuance of $345.0 million aggregate principal amount of our 1.75% 2020 Notes. In connection with the issuance of the 2020 Notes, we entered into capped call transactions with the initial purchaser of the 2020 Notes and an additional financial institution ("Capped Call Transactions").

The net proceeds from the sale of the 2020 Notes were approximately $336.5 million , after deducting the initial purchasers' fees and other estimated expenses. We used approximately $43.2 million of the net proceeds to pay the cost of the Capped Call Transactions.

On May 24, 2018, we exchanged $192.9 million in aggregate principal of the 2020 Notes for new 2023 Notes. As a result of the transaction, $192.9 million in aggregate principal of the 2020 Notes was extinguished. The extinguishment resulted in the derecognition of the carrying value of the debt, including the debt discount, of $157.4 million . We recognized a loss on exchange of $14.6 million based on the difference between the carrying value of the exchanged notes and the portion of the consideration allocated to the fair value of the new notes. The loss is included in the general and administrative line item of our Condensed Consolidated Statements of Operations. The carrying value of the existing 2020 notes as of September 30, 2018 is $127.6 million and will continue to accrete to par using the same effective interest rate as when the transaction was executed.

The 2020 Notes are unsecured, senior obligations of Pandora, and interest is payable semi-annually at a rate of 1.75% per annum. The 2020 Notes will mature on December 1, 2020, unless earlier repurchased or redeemed by Pandora or converted in accordance with their terms prior to such date. Prior to July 1, 2020, the 2020 Notes are convertible at the option of holders only upon the occurrence of specified events or during certain periods as further described in Note 9 "Debt Instruments" in our Annual Report on Form 10-K for the year ended December 31, 2017; thereafter, until the second scheduled trading day prior to maturity, the 2020 Notes will be convertible at the option of holders at any time.

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The conversion rate for the 2020 Notes is initially 60.9050 shares of common stock per $1,000 principal amount of the 2020 Notes, which is equivalent to an initial conversion price of approximately $16.42 per share of our common stock, and is subject to adjustment in certain circumstances.

The 2020 Notes were separated into debt and equity components and assigned a fair value. The value assigned to the debt component is the estimated fair value as of the issuance date of similar debt without the conversion feature. The difference between the cash proceeds and this estimated fair value represents the value which has been assigned to the equity component and recorded as a debt discount. The debt discount is being amortized using the effective interest method over the period from the date of issuance through the December 1, 2020 maturity date. The valuation of the 2020 Notes is further described in Note 9 "Debt Instruments" in our Annual Report on Form 10-K for the year ended December 31, 2017.

The initial debt component of the 2020 Notes was valued at $233.5 million , based on the contractual cash flows discounted at an appropriate market rate for non-convertible debt at the date of issuance. The carrying value of the permanent equity component reported in additional paid-in-capital was initially valued at $103.0 million , which is net of $2.6 million of fees and expenses allocated to the equity component.

Convertible Debt Offering Due 2023

On May 24, 2018, we completed an exchange of $192.9 million in aggregate principal of the 2020 notes in separate transactions with the note holders. Pursuant to the exchange, the note holders received $192.9 million in aggregate principal of the 1.75% 2023 Notes.

The 2023 Notes are unsecured, senior obligations of Pandora, and interest is payable semi-annually at a rate of 1.75% per annum. The 2023 Notes will mature on December 1, 2023, unless earlier repurchased or redeemed by Pandora or converted in accordance with their terms prior to such date. Prior to July 1, 2023, the 2023 Notes are convertible at the option of holders only upon the occurrence of specified events or during certain periods as further described below; thereafter, until the second scheduled trading day prior to maturity, the 2023 Notes will be convertible at the option of holders at any time.

The conversion rate for the 2023 Notes is initially 104.4778 shares of common stock per $1,000 principal amount of the 2023 Notes, which is equivalent to an initial conversion price of approximately $9.57 per share of our common stock, and is subject to adjustment in certain circumstances.

We will not have the right to redeem the 2023 Notes prior to December 5, 2021. We may redeem all or any portion of the 2023 Notes for cash at our option on or after December 5, 2021 if the last reported sale price of our common stock is at least 130% of the conversion price then in effect for at least 20 trading days, whether or not consecutive, during any 30 consecutive trading day period, including the last trading day of such period, ending on, and including, any of the five trading days immediately preceding the date on which we provide notice of redemption. Any optional redemption of the 2023 Notes will be at a redemption price equal to 100% of the principal amount of the 2023 Notes to be redeemed, plus accrued and unpaid interest to, but excluding, the redemption date. We have the right to settle the 2023 Notes in cash, shares or a combination thereof. The maximum number of shares of common stock the 2023 Notes are convertible into is approximately 27.2 million , and is subject to adjustment under certain circumstances.

The 2023 Notes will be convertible at the option of holders only under the following circumstances:

- Prior to the close of business on the business day immediately preceding July 1, 2023, during any calendar quarter commencing after the calendar quarter ended on September 30, 2018 (and only during such calendar quarter), if the last reported sale price of our common stock for at least 20 trading days (whether or not consecutive), during a period of 30 consecutive trading days ending on the last trading day of the immediately preceding calendar quarter is greater than or equal to 130% of the conversion price on each applicable trading day;

- Prior to the close of business on the business day immediately preceding July 1, 2023, during the five business day period after any ten consecutive trading day period (the "measurement period") in which the trading price per $1,000 principal amount of 2023 Notes for each trading day of the measurement period was

less than 98% of the product of the last reported sale price of our common stock and the conversion rate on each such trading day;

- Prior to the business day immediately preceding July 1, 2023, upon the occurrence of specified corporate events; or
- At any time on or after July 1, 2023 until the close of business on the second scheduled trading day immediately preceding the December 1, 2023 maturity date.

Upon the occurrence of a make-whole fundamental change or if we call all or any portion of the 2023 Notes for redemption prior to July 1, 2023, we will, in certain circumstances, increase the conversion rate by a number of additional shares for a holder that elects to convert its 2023 Notes in connection with such make-whole fundamental change or during the related redemption period.

The 2023 Notes were separated into debt and equity components and assigned a fair value. The value assigned to the debt component is the estimated fair value as of the issuance date of similar debt without the conversion feature. The initial debt component of the 2023 Notes was valued at $124.3 million , which is net of $3.2 million of fees and expenses allocated to the debt component. The difference between the fair value of the total instrument and this estimated fair value of the debt component represents the value which has been assigned to the equity component. The fair value of the equity component reported in additional paid-in capital is $67.3 million , which is net of $1.7 million of fees and expenses allocated to the equity component. The difference between the principal exchanged, which is par value or $192.9 million , and the estimated fair value of the new debt represents the amount recorded as a debt discount. The debt discount is being amortized using the effective interest method over the period from the date of issuance through the December 1, 2023 maturity date.

The following tables outlines the effective interest rate, contractually stated interest expense and costs related to the amortization of the discount for the Notes:

	Three months ended September 30,			
	2017	2018	2017	2018
	2020 Notes		2023 Notes	
	(in thousands except for effective interest rate)			
Effective interest rate	10.18%	10.18%	N/A	10.38%
Contractually stated interest expense	$ 1,509	$ 691	N/A	$ 844
Amortization of discount	$ 5,135	$ 2,593	N/A	$ 2,381

	Nine months ended September 30,			
	2017	2018	2017	2018
	2020 Notes		2023 Notes	
	(in thousands except for effective interest rate)			
Effective interest rate	10.18%	10.18%	N/A	10.38%
Contractually stated interest expense	$ 4,511	$ 3,320	N/A	$ 1,191
Amortization of discount	$ 14,934	$ 12,031	N/A	$ 3,360

The total estimated fair value of the 2020 Notes and 2023 Notes as of September 30, 2018 was $148.7 million and $222.7 million . The fair value was determined using a methodology that combines direct market observations with quantitative pricing models to generate evaluated prices. We consider the fair value of the Notes to be a Level 2 measurement due to the limited trading activity of the Notes.

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The closing price of our common stock was $9.51 on September 30, 2018 , which was less than the initial conversion price for the 2020 Notes and 2023 Notes of approximately $16.42 and $9.57 per share. As such, the if-converted values of the 2020 Notes and 2023 Notes were less than the principal amounts of $152.1 million and $192.9 million .

Credit Facility

On December 29, 2017, we entered into a credit facility for an aggregate commitment amount of $200.0 million , with an option to increase the commitment amount by $50.0 million . As of September 30, 2018, the credit facility had a maturity date of the earliest of December 29, 2022; 120 days prior to the 2020 Notes maturity date of December 1, 2020, provided that the 2020 Notes have not been converted into common stock prior to such date; or 120 days prior to the Series A redeemable convertible preferred stock ("Series A") redemption date of September 22, 2022, provided that the Series A has not been converted into common stock prior to such date. The amount of borrowings available under the credit facility at any time is limited by our monthly accounts receivable balance at such time. The credit facility is further described in Note 9 "Debt Instruments" in our Annual Report on Form 10-K for the year ended December 31, 2017.

As of September 30, 2018 , we had no outstanding borrowings, $0.8 million in letters of credit outstanding and $199.2 million of available borrowing capacity under the credit facility. We are in compliance with all financial covenants associated with the credit facility as of September 30, 2018 .

12. Redeemable Convertible Preferred Stock

In June 2017, we entered into an agreement with Sirius XM Radio Inc. ("Sirius XM Radio") to sell 480,000 shares of Series A for $1,000 per share, with gross proceeds of $480.0 million . The Series A shares were issued in two rounds: an initial closing of 172,500 shares for $172.5 million that occurred on June 9, 2017 upon signing the agreement with Sirius XM Radio, and an additional closing of 307,500 shares for $307.5 million that occurred on September 22, 2017. Total proceeds from the initial and additional closing, net of preferred stock issuance costs of $29.3 million , were $450.7 million .

The voting rights, conversion feature, redemption feature, fundamental changes and recognition of the Series A is further described in Note 10 "Redeemable Convertible Preferred Stock" in our Annual Report on Form 10-K for the year ended December 31, 2017.

As of December 31, 2017 and September 30, 2018 , redeemable convertible preferred stock consisted of the following:

	As of December 31, 2017	As of September 30, 2018
	(in thousands)	(in thousands)
Series A redeemable convertible preferred stock	$ 480,000	$ 480,000
Issuance costs	(29,318)	(29,318)
Accretion of issuance costs	29,318	29,318
Stock dividend payable to preferred stockholders	10,849	33,270
Redeemable convertible preferred stock	$ 490,849	$ 513,270

13. Stock-based Compensation Plans and Awards

Employee Stock-Based Awards

Our 2011 Equity Incentive Plan (the "2011 Plan") provides for the issuance of stock options, restricted stock units and other stock-based awards to our employees. The 2011 Plan is administered by the compensation committee of our board of directors.

Stock options

We measure stock-based compensation expense for stock options at the grant date fair value of the award and recognize expense on a straight-line basis over the requisite service period, which is generally the vesting period. We estimate the fair value of stock options using the Black-Scholes option-pricing model. During the three months ended September 30, 2017 and 2018 , we recorded stock-based compensation expense from stock options of approximately $0.9 million and $1.5 million . During the nine months ended September 30, 2017 and 2018 , we recorded stock-based compensation expense from stock options of approximately $6.9 million and $3.6 million .

The per-share fair value of each stock option was determined on the grant date using the Black-Scholes option pricing model using the following assumptions:

	Three months ended September 30,		Nine months ended September 30,	
	2017	2018	2017	2018
Expected life (in years)	6.25	N/A	5.93 - 6.25	2.05 - 6.25
Risk-free interest rate	1.97%	N/A	1.92 - 2.18%	2.49 - 2.79 %
Expected volatility	61%	N/A	61%	58 - 60%
Expected dividend yield	0%	N/A	0%	0%

Restricted stock units ("RSUs")

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The fair value of RSUs is expensed ratably over the vesting period. RSUs typically have an initial annual cliff vest and then vest quarterly thereafter over the service period, which is generally three to four years . During the three months ended September 30, 2017 and 2018 , we recorded stock-based compensation expense from RSUs of approximately $27.7 million and $26.3 million . During the nine months ended September 30, 2017 and 2018 , we recorded stock-based compensation expense from RSUs of approximately $86.5 million and $76.2 million .

ESPP

The ESPP allows eligible employees to purchase shares of our common stock through payroll deductions of up to 15% of their eligible compensation. The ESPP provides for six -month offering periods, commencing in February and August of each year.

We estimate the fair value of shares to be issued under the ESPP on the first day of the offering period using the Black-Scholes valuation model. The inputs to the Black-Scholes option pricing model are our stock price on the first date of the offering period, the risk-free interest rate, the estimated volatility of our stock price over the term of the offering period, the expected term of the offering period and the expected dividend rate. Stock-based compensation expense related to the ESPP is recognized on a straight-line basis over the offering period. Forfeitures are recognized as they occur.

The following assumptions for the Black-Scholes option pricing model were used to determine the per-share fair value of shares to be granted under the ESPP:

	Three months ended September 30,		Nine months ended September 30,	
	2017	2018	2017	2018
Expected life (in years)	0.5	0.5	0.5	0.5
Risk-free interest rate	0.65 - 1.13%	1.83 - 2.24%	0.44 - 1.13%	1.13 - 2.24%
Expected volatility	39 - 45%	57%	39 - 52%	45 - 57%
Expected dividend yield	0%	0%	0%	0%

During the three months ended September 30, 2017 and 2018 , we withheld $1.9 million and $1.9 million in contributions from employees and recognized $1.0 million and $0.9 million of stock-based compensation expense related to the ESPP, respectively. During the nine months ended September 30, 2017 and 2018 , we withheld $8.0 million and $5.5 million in contributions from employees and recognized $2.9 million and $2.5 million of stock-based compensation expense related to the ESPP, respectively. In the three months ended September 30, 2017 and 2018 , 739,922 and 855,415 shares of common stock were issued under the ESPP. In the nine months ended September 30, 2017 and 2018 , 1,287,687 and 1,651,405 shares of common stock were issued under the ESPP.

Stock-based Compensation Expense

Stock-based compensation expense related to all employee and non-employee stock-based awards was as follows:

	Three months ended September 30,		Nine Months Ended September 30,	
	2017	2018	2017	2018
	(in thousands)		(in thousands)	
Stock-based compensation expense				
Cost of revenue—Other	$ 803	$ 742	$ 2,432	$ 2,284
Cost of revenue—Ticketing service	6	—	69	—
Product development	8,428	8,884	25,765	23,329
Sales and marketing	14,059	11,300	42,657	34,209
General and administrative	6,805	7,912	27,404	22,980
Total stock-based compensation expense	$ 30,101	$ 28,838	$ 98,327	$ 82,802

14. Net Loss Per Common Share

Basic net loss per common share is computed by dividing net loss available to common stockholders by the weighted-average number of shares of common stock outstanding during the period.

Diluted net loss per common share is computed by giving effect to all potential shares of common stock, including stock options, restricted stock units, market stock units, performance-based RSUs, potential ESPP shares and instruments convertible into common stock, to the extent dilutive. For the three and nine months ended September 30, 2017 and 2018 , basic net loss per common share was the same as diluted net loss per common share, as the inclusion of all potential common shares outstanding would have been anti-dilutive.

The following table sets forth the computation of historical basic and diluted net loss per common share:

	Three months ended September 30,		Nine months ended September 30,	
	2017	2018	2017	2018
	(in thousands except per share amounts)			
Numerator				
Net loss	$ (66,243)	$ (63,666)	$ (473,646)	$ (287,353)
Less: Stock dividend payable and transaction costs	18,319	7,585	32,847	22,421
Net loss available to common stockholders	(84,562)	(71,251)	(506,493)	(309,774)
Denominator				
Weighted-average basic and diluted common shares	245,810	268,058	241,579	260,327
Net loss per common share, basic and diluted	$ (0.34)	$ (0.27)	$ (2.10)	$ (1.19)

The following potential common shares outstanding were excluded from the computation of diluted net loss per common share because including them would have been anti-dilutive:

	As of September 30,	
	2017	2018
	(in thousands)	
Shares issuable upon conversion of preferred stock	46,057	48,883
Restricted stock units	20,990	25,614
Shares issuable upon conversion of 2023 Notes	—	20,154
Options to purchase common stock	6,206	6,368
Performance awards*	1,486	875
Shares issuable pursuant to the ESPP	859	848
Total common stock equivalents	75,598	102,742

*Includes potential common shares outstanding for Market Stock Units and Performance Stock Units

On December 9, 2015, we completed an offering of our 1.75% convertible senior notes due 2020. As we have the intention to settle the 2020 Notes either partially or wholly in cash, under the treasury stock method, the 2020 Notes will generally have a dilutive impact on earnings per share if we are in a net income position for the period and if our average stock price for the period exceeds approximately $16.42 per share of our common stock, the conversion price of the 2020 Notes. For the period from the issuance of the offering of the 2020 Notes through September 30, 2018 , the conversion feature of the 2020 Notes was anti-dilutive, as we were in a net loss position for all periods and our average stock price was less than the conversion price.

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In connection with the pricing of the 2020 Notes, we entered into Capped Call Transactions which increase the effective conversion price of the 2020 Notes, and are designed to reduce potential dilution upon conversion of the 2020 Notes. Since the beneficial impact of the capped call is anti-dilutive, it is excluded from the calculation of earnings per share. Refer to Note 11 "Debt Instruments" for further details regarding our 2020 Notes.

15. Restructuring Charges

Reductions in Force

On January 31, 2018, we announced efforts to prioritize our strategic growth initiatives and optimize overall business performance, including a reduction in force plan ("2018 Reduction in Force") affecting approximately 5% of our employee base. Our Board of Directors approved the plan on January 11, 2018 and affected employees were informed of the plan on January 31, 2018. In the nine months ended September 30, 2018 , we incurred costs and cash expenditures for the 2018 Reduction in Force totaling $7.6 million , substantially all of which are related to employee severance and benefits costs. These costs are included in the product development, sales and marketing and general and administrative line items of our Condensed Consolidated Statements of Operations. The 2018 Reduction in Force was completed and all amounts were paid in the nine months ended September 30, 2018 .

On January 12, 2017, we announced a reduction in force plan ("2017 Reduction in Force") affecting approximately 7% of our U.S. employee base, excluding Ticketfly. In the nine months ended September 30, 2017 , we incurred approximately $6.0 million of cash expenditures for the 2017 Reduction in Force, substantially all of which were related to employee severance and benefits costs. In the nine months ended September 30, 2017 , total reduction in force expenses were $5.6 million , which was lower than cash reduction in force costs due to a credit related to non-cash stock-based compensation expense reversals for unvested equity awards. These costs are included in the cost of revenue—other, product development, sales and marketing and general and administrative line items of our Condensed Consolidated Statements of Operations. The 2017 Reduction in Force was completed and all amounts were paid in 2017.

16. Income Taxes

Tax Cut and Jobs Act (the "Act")

On December 22, 2017, the Act was signed into law, which enacted significant changes to U.S. tax and related laws. Some of the provisions of the new tax law affecting corporations include, but are not limited to a reduction of the federal corporate income tax rate from 35% to 21% , limiting the interest expense deduction, expensing of cost of acquired qualified property and allowing federal net operating losses generated in taxable years ending after December 31, 2017 to be carried forward indefinitely.

In accordance with ASU 2018-05 and Staff Accounting Bulletin No. 118 ("SAB 118"), we recognized the provisional tax impacts related to the revaluation of net deferred tax assets and the impact of the changes to the limitation on the deductibility of executive compensation, offset with a valuation allowance, during the year ended December 31, 2017. As of September 30, 2018 , we have not made any additional measurement period adjustments related to these items. Such adjustments may be necessary in future periods due to, among other things, additional analysis and changes in interpretations and assumptions as applicable and additional regulatory guidance that may be issued. We are continuing to gather information to assess the application of the Act.

Acquisition of AdsWizz

As a result of the acquisition of AdsWizz, deferred tax liabilities were established for the book-tax basis difference primarily related to acquired intangible assets. The net deferred tax liabilities provided an additional source of income to support the realizability of pre-existing deferred tax assets. As a result, during the nine months ended September 30, 2018 , we released $7.2 million of our valuation allowance and recorded an income tax benefit. Refer to Note 7 "Business Combination" in the Notes to the Condensed Consolidated Financial Statements for further details on the acquisition of AdsWizz.

17. Sirius XM Holdings Inc. Merger Agreement

On September 23, 2018, we entered in to an Agreement and Plan of Merger and Reorganization (the "Merger Agreement") with Sirius XM Holdings Inc. ("Sirius XM"), a Delaware corporation, and White Oaks Acquisition Corp., a Delaware corporation and a wholly owned subsidiary of Sirius XM. Subject to the terms and conditions set forth in the Merger Agreement, the Company will be acquired by and become a wholly owned subsidiary of Sirius XM (the "Merger"). On the date the Merger is effected, (i) all of our common stock issued and outstanding immediately prior to the effective date of the Merger will be converted into the right to receive validly issued, fully paid and non-assessable shares of Sirius XM common stock at an exchange ratio of 1.44 and (ii) all of our Redeemable Convertible Preferred Stock will be canceled without consideration.

Pursuant to the Merger Agreement, on October 24, 2018, the "go-shop" period expired. On October 24, 2018, we announced and informed Sirius XM that we had actively solicited alternative acquisition proposals during the "go-shop" period from potential acquirers. During such time, none of these parties executed a confidentiality agreement or otherwise expressed an interest in pursuing a transaction and no other party proposed an alternative transaction. We are now subject to customary "no-shop" provisions that limit our ability to solicit alternative acquisition proposals, subject to customary provisions.

The consummation of the Merger is subject to certain conditions, including approval by the stockholders of both Sirius XM and the Company, the satisfaction of certain regulatory approvals and other customary closing conditions. If we terminate the Merger Agreement under certain circumstances, we may be required to pay Sirius XM a termination fee of $105.0 million .

Item 2. Management's Discussion and Analysis of Financial Condition and Results of Operations ("MD&A")

You should read the following discussion of our financial condition and results of operations in conjunction with the condensed consolidated financial statements and the notes thereto included elsewhere in this Quarterly Report on Form 10-Q and our Annual Report on Form 10-K for the year ended December 31, 2017 filed with the Securities and Exchange Commission pursuant to the Securities Exchange Act of 1934, as amended (the "Exchange Act").

This Quarterly Report on Form 10-Q contains "forward-looking statements" that involve substantial risks and uncertainties. The statements contained in this Quarterly Report on Form 10-Q that are not purely historical are forward-looking statements within the meaning of Section 27A of the Securities Act of 1933, as amended (the "Securities Act") and Section 21E of the Exchange Act, including, but not limited to, statements regarding our expectations, beliefs, intentions, strategies, future operations, future financial position, future revenue, projected expenses, plans and objectives of management, economic, competitive and technological trends and consummation of the proposed merger with Sirius XM Holdings Inc. ("Sirius XM"). In some cases, you can identify forward-looking statements by terms such as "anticipate," "believe," "estimate," "expect," "intend," "may," "might," "plan," "project," "will," "would," "should," "could," "can," "predict," "potential," "continue," "objective," or the negative of these terms, and similar expressions intended to identify forward-looking statements. However, not all forward-looking statements contain these identifying words. These forward-looking statements reflect our current views about future events and involve known risks, uncertainties and other factors that may cause our actual results, levels of activity, performance or achievement to be materially different from those expressed or implied by the forward-looking statements. Factors that could cause or contribute to such differences include, but are not limited to, those identified below, and those discussed in the section titled "Risk Factors" included in this Quarterly Report on Form 10-Q and our Annual Report on Form 10-K for the year ended December 31, 2017, the possibility that the closing of the proposed merger with Sirius XM may be delayed or may fail to occur, and risks related to the disruption of the proposed merger and the effect of the announcement of the proposed merger on our ability to attract and retain key personnel and maintain relationships with our customers, vendors and other third parties.. Furthermore, such forward-looking statements speak only as of the date of this report. Except as required by law, we undertake no obligation to update any forward-looking statements to reflect events or circumstances after the date of such statements. We qualify all of our forward-looking statements by these cautionary statements. These and other factors could cause our results to differ materially from those expressed in this Quarterly Report on Form 10-Q.

As used herein, "Pandora," the "Company," "we," "our," and similar terms refer to Pandora Media, Inc., unless the context indicates otherwise.

"Pandora" and other trademarks of ours appearing in this report are our property. This report may contain additional trade names and trademarks of other companies. We do not intend our use or display of other companies' trade names or trademarks to imply an endorsement or sponsorship of us by such companies, or any relationship with any of these companies.

Overview

Pandora—Streaming Radio and On-Demand Music Services

Pandora is the world's most powerful music discovery platform, offering a personalized experience for each of our listeners wherever and whenever they want to listen to music—whether through mobile devices, car speakers or connected devices in the home. Unlike traditional radio that broadcasts the same content at the same time to all of their listeners, we enable our listeners to create personalized stations and playlists, as well as search and play songs and albums on-demand. The Music Genome Project and our content programming algorithms power our ability to predict listener music preferences, play music content suited to the tastes of each individual listener and introduce listeners to the music we think they will love. The Music Genome Project is a database of over 1.5 million uniquely analyzed songs from over 250 thousand artists, spanning over 670 genres and sub-genres, which our team of trained musicologists has developed one song at a time by evaluating and cataloging each song's particular attributes. The Music Genome Project database is a subset of our full catalog available to be

played. Over time, our service has evolved by using data science to develop playlisting algorithms that further tailor the listener experience based on individual listener and broader audience reactions to the recordings we pick. With billions of data points collected from our listeners, we are able to use listeners' feedback to fuel our ability to choose exactly the right song for our users. Founded by musicians, Pandora also empowers artists with valuable data and tools to help grow their audience and connect with their fans.

Pandora is available as an ad-supported service, a radio subscription service called Pandora Plus and an on-demand subscription service called Pandora Premium. The majority of our listener hours occur on mobile devices, with the majority of our revenue generated from advertising on our ad-supported radio service on these devices. With billions of data points that help us understand our users' preferences, we offer both local and national advertisers the opportunity to deliver targeted messages to our listeners using a combination of audio, display and video advertisements. We also generate increasing revenue from our subscription offerings.

For the three months ended September 30, 2018 , we streamed 4.81 billion hours of content, and as of September 30, 2018 , we had 68.8 million active users during the trailing 30-day period and 6.76 million paid subscribers. Since we launched the Pandora service in 2005 our listeners have created over 13 billion stations.

Ad-Supported Radio Service

Our ad-supported service allows listeners to access our music and podcast catalogs and personalized playlist generating system for free across all of our delivery platforms. This service is valued by lean-back listeners, as it uses the Music Genome Project to instantly generate a station that plays music we think that listener will enjoy. Over time, our service has evolved by using data science to further tailor the listener experience based on listener reactions to the content we pick. Listeners also have the ability to add variety to and rename stations, which further allows for the personalization of our service. We recently began offering listeners on our ad-supported service the option to gain temporary access to on-demand listening experience, which includes some features of our Pandora Premium service, in exchange for engaging with an ad, which allows advertisers to more deeply engage with a user and create a positive brand experience. We call this experience Premium Access.

Subscription Radio Service—Pandora Plus

Pandora Plus is a paid, ad-free subscription version of the Pandora radio service that also includes replays, additional skipping of songs, offline listening, higher quality audio on supported devices and longer timeout-free listening. This service is valued by listeners who want the ability to have limited interactive features such as skips and replays. Similar to the ad-supported service, the more the listener interacts with the platform, the more we tailor the songs we recommend to the listener.

On-Demand Subscription Service—Pandora Premium

Our on-demand subscription service, Pandora Premium, launched in the United States in April 2017. Pandora Premium is an on-demand version of the Pandora service that offers a unique, on-demand experience, providing users with the ability to search, play and collect songs and albums, build playlists on their own or with the tap of a button, listen to curated playlists and share playlists on social networks. Unique to Pandora, a listener can create partial playlists and have Pandora complete the playlist based on the user's listening activity using the Music Genome Project. The features of Pandora Plus are also included in Pandora Premium.

A key element of our strategy is to make the Pandora service available in any environment that has internet connectivity. To this end, we make the Pandora service available through a variety of distribution channels. In addition to streaming our service to computers, we have developed Pandora mobile device applications ("apps") for smartphones and mobile operating systems, such as the iPhone and Android and for tablets, including the iPad and Android tablets. We distribute those mobile apps free to listeners via app stores. We have also integrated with thousands of consumer electronic and voice-based devices.

We expect to continue to make enhancements to Pandora Plus and Pandora Premium, which will require engineering effort, as well as other resources. In addition, in connection with the launch and continued operation of these services we have entered into direct license agreements with major and independent record labels, some of which include substantial minimum guarantee payments. In order for Pandora Plus and Pandora Premium to be successful, we will need to attract subscribers to these new service offerings. The market for subscription-based music services, including on-demand services, is intensely competitive, and our ability to realize a return on our investments in these service offerings will depend on our ability to leverage the existing audience of our ad-supported service, our brand awareness and our ability to deliver differentiated subscription services with features and functionality that listeners find attractive. Refer to our discussion of these matters in Item 1A—"Risk Factors" in our Annual Report on Form 10-K for the year ended December 31, 2017 .

Recent Events

Sirius XM Merger Agreement

On September 23, 2018, we entered in to an Agreement and Plan of Merger and Reorganization (the "Merger Agreement") with Sirius XM, a Delaware corporation, and White Oaks Acquisition Corp., a Delaware corporation and a wholly owned subsidiary of Sirius XM. Subject to the terms and conditions set forth in the Merger Agreement, the Company will be acquired by and become a wholly owned subsidiary of Sirius XM (the "Merger"). On the date the Merger is effected, (i) all of our common stock issued and outstanding immediately prior to the effective date of the Merger will be converted into the right to receive validly issued, fully paid and non-assessable shares of Sirius XM common stock at an exchange ratio of 1.44 and (ii) all of our Redeemable Convertible Preferred Stock will be canceled without consideration.

Pursuant to the Merger Agreement, on October 24, 2018, the "go-shop" period expired. On October 24, 2018, we announced and informed Sirius XM that we had actively solicited alternative acquisition proposals during the "go-shop" period from potential acquirers. During such time, none of these parties executed a confidentiality agreement or otherwise expressed an interest in pursuing a transaction and no other party proposed an alternative transaction. We are now subject to customary "no-shop" provisions that limit our ability to solicit alternative acquisition proposals, subject to customary provisions.

The consummation of the Merger is subject to certain conditions, including approval by the stockholders of both Sirius XM and the Company, the satisfaction of certain regulatory approvals and other customary closing conditions. If we terminate the Merger Agreement under certain circumstances, we may be required to pay Sirius XM a termination fee of $105.0 million .

Convertible Debt Exchange

On May 24, 2018 we exchanged $192.9 million in aggregate principal of the Convertible Senior Notes due 2020 (the "2020 Notes") for new Convertible Senior Notes due 2023 (the "2023 Notes") (collectively the "Notes"). Pursuant to the exchange, the note holders received $192.9 million in aggregate principal of the new 1.75% 2023 Notes. The exchange qualified as an extinguishment of the original notes. The extinguishment resulted in the derecognition of the carrying value of the debt, including the debt discount. We recognized a loss on exchange of $14.6 million based on the difference between the carrying value of the exchanged notes and the portion of the consideration allocated to the fair value of the new notes. The loss is included in the general and administrative line item of our Condensed Consolidated Statements of Operations. The carrying value of the existing 2020 notes as of September 30, 2018 is $127.6 million and will continue to accrete to par using the same effective interest rate when the transaction was executed. Refer to Note 11 "Debt Instruments" in the Notes to the Condensed Consolidated Financial Statements for further details on the convertible note exchange.

Acquisition of AdsWizz Inc. ("AdsWizz")

On May 25, 2018, we completed the acquisition of AdsWizz Inc. ("AdsWizz"), a leading digital audio ad technology company with a comprehensive digital audio software suite of solutions that connects audio publishers to the advertising community, for an aggregate purchase price of $146.6 million in a combination of cash and common stock. Cash paid was $73.7 million and 9,588,312 shares of the Company's common stock were issued. The purchase price includes a contingent consideration of $5.0 million , measured at its fair value, which is dependent on achievement of certain business milestones. In addition to the purchase price, unvested options of AdsWizz were converted into unvested options to acquire our common stock. We recognized goodwill of $107.7 million , which is primarily attributable to expected synergies from future growth and strategic advances in the digital audio ad technology industry. Refer to Note 7 "Business Combinations" in the Notes to the Condensed Consolidated Financial Statements for further details on the acquisition of AdsWizz.

Cancellation of Convertible Subordinated Promissory Note Receivable ("Convertible Promissory Note")

On March 30, 2018, we amended our Membership Interest Purchase Agreement ("MIPA") with Eventbrite, Inc. ("Eventbrite") which resulted in the cancellation of our Convertible Promissory Note for a cancellation fee of $34.7 million . Upon completion of the cancellation of the Convertible Promissory Note, the remaining unpaid principal and interest balance were forgiven. Refer to Note 9 "Dispositions" in the Notes to the Condensed Consolidated Financial Statements for further details on the cancellation of the Convertible Promissory Note.

Factors Affecting our Business Model

Content Acquisition Costs

For sound recording rights, we pay content acquisition costs based on the terms of direct license agreements with major and independent music labels and distributors for the significant majority of the sound recordings we stream on our ad-supported service, Pandora Plus and Pandora Premium. Depending on the applicable service, these license agreements generally require us to pay either a per-performance fee based on the number of sound recordings we transmit, a percentage of revenue associated with the service, or a per-subscriber minimum amount. Certain of these license agreements require minimum guarantee payments, some of which are paid in advance.

If we have not entered into a direct license agreement with the copyright owner of a particular sound recording that is streamed on our services, we stream that sound recording pursuant to a statutory license and pay the applicable rates set by the Copyright Royalty Board ("CRB") for the period from January 1, 2016 through December 31, 2020 (the "Section 114 Rates"). The 2016 and 2017 rates for non-subscription services, such as our ad-supported service, were set at $0.0017 per play and the rates for subscription services, such as Pandora Plus, were set at $0.0022, adjusted for inflation. Effective January 1, 2018, these rates were adjusted for inflation to $0.0018 per play for non-subscription services and $0.0023 per play for subscription services. Sound recordings streamed under the statutory license and paid at the CRB-set rates can only be played in radio mode on our services. These sound recordings cannot be played on-demand or offline and are not eligible for replay or additional skips.

Content acquisition costs for musical works are negotiated with and paid to performing rights organizations ("PROs") such as the American Society of Composers, Authors and Publishers ("ASCAP"), Broadcast Music, Inc. ("BMI"), SESAC, Inc. ("SESAC") and Global Music Rights and directly to publishing companies. Content acquisition costs for the streaming of musical works on our ad-supported service are calculated such that each copyright holder receives its usage-based and ownership-based share of a royalty pool equal to 21.5% of the content acquisition costs paid by us for sound recordings on our ad-supported service. Content acquisition costs for the streaming of musical works on our subscription services are equal to the rates determined in accordance with the statutory license set forth in 17 U.S.C. §115 ("Section 115").

The rate structure for the statutory license for reproduction rights under Section 115 expired at the end of 2017. A new rate structure was set in January 2018, covering the period from January 1, 2018 through December 31, 2022, by a three judge CRB panel, and we were one of five commercial music service operators (along with Amazon, Apple, Google and Spotify) that participated in rate-setting proceedings that determined these rates (the "Phonorecords III Proceedings"). The Nashville Songwriters Association International, the National Association of Music Publishers and George Johnson Music Publishing also participated in the Phonorecords III Proceedings. A trial before the CRB concluded in April 2017, and the CRB rendered a decision in January 2018 ("the Initial Determination"). If the Initial Determination is adopted and affirmed, the "all-in" rate that streaming services, including Pandora, will pay to music publishers and songwriters for the mechanical rights and performance rights needed in connection with interactive streaming will increase annually between 2018 and 2022: from 11.4% of revenues or 22.0% of label payments in 2018, to 15.1% of revenues or 26.2% of label payments in 2022. Certain per-subscriber minimum royalty floors also apply depending on the type of service. The CRB has issued certain clarifications and modifications to the Initial Determination at the request of the participants in the Phonorecords III Proceedings, though none of these clarifications or modifications change the basic rate structure of the Initial Determination or are expected to have a significant effect on the rates the Company pays under the Initial Determination. Once the final CRB decision is published in the Federal Register, it may be appealed for review by the DC Circuit Court of Appeals.

The Phonorecords III Proceedings are important to us because our direct licenses with music publishers use the Section 115 rates. As a result, increases in the Section 115 rates increase our content acquisition costs for our subscription services, which, if such increase were substantial, could materially harm our financial condition and hinder our ability to provide interactive features in our services, or cause one or more of our subscription services to not be economically viable.

Ad-Supported Service

Our ad-supported service is monetized through the sale of display, audio and video advertisements to national, regional and local advertisers.

Our total number of listener hours is a key driver for both advertising revenue generation opportunities and content acquisition costs, which are the largest component of our ad-related expenses.

- *Advertising Revenue.* Listener hours define the number of opportunities we have to sell advertisements. Our ability to attract advertisers depends in large part on our ability to offer sufficient inventory within desired demographics.

- *Cost of Revenue—Content Acquisition Costs—Ad-Supported Service.* We pay content acquisition costs to the copyright owners and performers, or their agents, of each sound recording that we stream, as well as to the

publishers and songwriters, or their agents, for the musical works embodied in each of those sound recordings, subject to certain exclusions. The majority of the content acquisition costs related to our ad-supported service are driven by direct license agreements with major and independent labels and distributors, as discussed above in "Factors Affecting Our Business Model—Content Acquisition Costs". Certain of these license agreements include minimum guarantee payments, some of which are paid in advance.

As a result of the structure of our license agreements, our ability to achieve and sustain profitability and operating leverage on our ad-supported service depends on our ability to increase our advertising revenue per thousand listener hours ("ad RPM") of streaming through increased advertising revenue across all of our delivery platforms.

Subscription Services

We monetize our subscription services through subscription payments made by users of the services. We drive subscriber growth by providing the world's most powerful music discovery platform, offering a personalized experience for each of our listeners and investing in marketing and free-trials to promote our service.

Our total number of paid subscriptions is a key driver for both subscription revenue and content acquisition costs related to our subscription services, which is the largest component of our subscription-related expenses. In order to drive greater subscription revenue, we must increase the number of new subscribers to our subscription services and minimize the number of current subscribers who discontinue their subscriptions.

- *Subscription Revenue* . Our subscription revenue depends upon the number of paid subscriptions we are able to sell and the price that our subscribers pay for those subscriptions. Our ability to attract subscribers depends in large part on our ability to offer features and functionality on our subscription services that are valued by consumers within desired demographics, on terms that are attractive to those consumers, and still enable us to maintain adequate gross margins.

- *Cost of Revenue—Content Acquisition Costs—Subscription Services* . We pay content acquisition costs to the copyright owners, performers, songwriters, or their agents, subject to certain exclusions. The majority of our content acquisition costs related to our subscription services are generally driven by direct license agreements with major and independent labels and distributors, PROs and publishers, as discussed above in "Factors Affecting Our Business Model—Content Acquisition Costs". Certain of these license agreements include minimum guarantee payments, some of which are paid in advance.

Given the structure of our license agreements for our subscription services, the majority of our content acquisition costs increase as subscription revenue increases and are subject to minimum guarantee payments. As such, our ability to achieve and sustain profitability and operating leverage on our subscription services depends on our ability to increase our revenue through increased paid subscriptions on terms that maintain an adequate gross margin. Refer to our discussion of these matters in Item 1A—"Risk Factors" in our Annual Report on Form 10-K for the year ended December 31, 2017 .

Key Metrics

The numbers for our key metrics, which include our listener hours, active users, advertising RPM, advertising licensing costs per thousand listener hours ("ad LPM"), paid subscribers, average monthly revenue per paid subscriber ("ARPU") and average monthly licensing costs per paid subscriber ("LPU") are calculated using internal company data. While these numbers are based on what we believe to be reasonable estimates of our user base for the applicable period of measurement, there are inherent challenges in measuring usage of our products across large online and mobile populations. In addition, we are continually seeking to improve our estimates of our user base, and such estimates may change due to improvements or changes in our methodology.

Total Service

Listener hours

We track listener hours because it is a key indicator of the growth of our business and the engagement of our listeners. We include listener hours related to our non-radio content offerings in the definition of listener hours. These offerings include non-music content such as podcasts, as well as custom music content such as Pandora Premieres and artist mixtapes. We calculate listener hours based on the total bytes served for each track that is requested and served from our servers, as measured by our internal analytics systems, whether or not a listener listens to the entire track. For non-music content such as podcasts, episodes are divided into approximately track-length parts, which are treated as tracks under this definition. To the extent that third-party measurements of listener hours are not calculated using a similar server-based approach, the third-party

measurements may differ from our measurements. We have implemented strategic hours control mechanisms, such as time outs, to optimize content acquisition costs for our ad-supported listening, and will continue to use these measures in the future.

The table below sets forth our total listener hours for the three and nine months ended September 30, 2017 and 2018 .

	Three months ended September 30,		Nine months ended September 30,	
	2017	2018	2017	2018
Service	(in billions)		(in billions)	
Advertising	3.91	3.59	12.49	11.30
Subscription	1.24	1.22	3.09	3.56
Total	5.15	4.81	15.58	14.86

Active users

We track the number of active users as an additional indicator of the breadth of audience we are reaching at a given time. We define active users as the number of distinct registered users, including subscribers, that have consumed content within the trailing 30 days to the end of the final calendar month of the period. The number of active users may overstate the number of unique individuals who actively use our service, as one individual may use multiple accounts. To become a registered user, a person must sign-up using an email address or phone number, or access our service using a device with a unique identifier, which we use to create an account for our service. Prior to the second quarter of 2018, we defined active users as the number of distinct registered users, including subscribers, that have requested audio from our servers during the trailing 30 days to the end of the final calendar month of the period.

The table below sets forth our total active users as of September 30, 2017 and 2018 .

	As of September 30,	
	2017	2018
	(in millions)	
Active users — all services	73.7	68.8

Advertising-based service

Advertising RPM

We track ad RPM for our non-subscription, ad-supported service because it is a key indicator of our ability to monetize advertising inventory created by our listener hours. We focus on ad RPM across all of our delivery platforms. We believe ad RPM to be the central top-line indicator for evaluating the results of our advertising monetization efforts. Ad RPM is calculated by dividing advertising revenue by the number of thousands of listener hours of our advertising-based service.

Advertising LPM

We track ad LPM for our non-subscription, ad-supported service across all delivery platforms. The content acquisition costs included in our ad LPM calculations are based on the rates set by our license agreements with record labels, PROs and music publishers or the Section 114 Rates if we have not entered into a license agreement with the copyright owner of a particular sound recording.

The table below sets forth our RPM and LPM for our ad-supported service for the three and nine months ended September 30, 2017 and 2018 .

	Three months ended September 30,				Nine months ended September 30,			
	2017		2018		2017		2018	
	RPM*	LPM	RPM*	LPM	RPM*	LPM	RPM*	LPM
Advertising	$ 70.27	$ 37.01	$ 77.84	$ 37.80	$ 62.08	$ 35.36	$ 67.14	$ 36.99

*The calculation of RPM does not include revenue generated by Ticketfly (divested), Next Big Sound or AdsWizz.

Advertising RPM

For the three and nine months ended September 30, 2018 compared to 2017 , the increase in ad RPM was primarily due to an increase in the average price per ad due to new advertising products resulting in improved monetization and partially due to a decrease in listener hours.

Advertising LPM

For the three and nine months ended September 30, 2018 compared to 2017 , the increase in ad LPM was primarily due to scheduled increases in rates paid to PROs for our publishing royalties and minimum guarantee accruals related to our direct license agreements with major and independent labels, distributors, PROs and publishers and an increase in per play rates adjusted for inflation.

Subscription Services—Total

Paid Subscribers

Paid subscribers are defined as the number of distinct users that have current, paid access to our subscription service as of the end of the period. We track paid subscribers because it is a key indicator of the growth of our subscription services.

The below table sets forth our paid subscribers as of December 31, 2017 and September 30, 2018 .

	As of December 31,	As of September 30,
	2017	2018
	(in millions)	
Paid subscribers	5.48	6.76

ARPU and LPU

ARPU is defined as average monthly revenue per paid subscriber on our subscription services. LPU is defined as average monthly licensing costs per paid subscriber on our subscription services. We believe ARPU to be the central top-line indicator for evaluating the results of our monetization efforts on our subscription services. We track LPU because it is a key measure of our ability to manage costs for our subscription services. The below table sets forth our ARPU and LPU for our subscription services for the three and nine months ended September 30, 2017 and 2018 .

	Three months ended September 30,				Nine months ended September 30,			
	2017		2018		2017		2018	
	ARPU	LPU	ARPU	LPU	ARPU	LPU	ARPU	LPU
Subscription Services	$ 5.58	$ 3.87	$ 6.68	$ 4.51	$ 5.05	$ 3.33	$ 6.51	$ 4.64

Subscription ARPU

For the three and nine months ended September 30, 2018 compared to 2017 , the increase in subscription ARPU is primarily due to an increase in Pandora Premium subscribers. Pandora Premium launched in the second quarter of 2017 at a higher price point than Pandora Plus.

Subscription LPU

For the three months ended September 30, 2018 compared to 2017 , the increase in subscription LPU is primarily due to an increase in content acquisition costs associated with Pandora Premium and an increase in accrued content acquisition costs due to higher rates determined by the Section 115 ruling.

For the nine months ended September 30, 2018 compared to 2017 , the increase in subscription LPU is primarily due to an increase in content acquisition costs associated with Pandora Premium and minimum guarantee accruals related to our direct license agreements with major and independent labels, distributors, PROs and publishers and an increase in accrued content acquisition costs due to higher rates determined by the Section 115 ruling.

Basis of Presentation and Results of Operations

The following table presents our results of operations for the periods indicated as a percentage of total revenue. The period-to-period comparisons of results are not necessarily indicative of results for future periods.

	Three months ended September 30,		Nine months ended September 30,	
	2017	2018	2017	2018
Revenue				
Advertising	73 %	70 %	73 %	69 %
Subscription and other	22	30	20	31
Ticketing service	5	—	7	—
Total revenue	100	100	100	100
Cost of revenue				
Cost of revenue—Content acquisition costs	54	53	55	59
Cost of revenue—Other	7	9	7	9
Cost of revenue—Ticketing service	3	—	5	—
Total cost of revenue	64	63	67	68
Gross profit	36	37	33	32
Operating expenses				
Product development	10	10	11	11
Sales and marketing	28	30	35	33
General and administrative	13	11	14	13
Goodwill impairment	—	—	12	—
Contract termination (benefit) fees	—	—	2	—
Total operating expenses	51	51	75	57
Loss from operations	(16)	(14)	(42)	(25)
Interest expense	(2)	(2)	(2)	(2)
Other income, net	—	—	—	1
Total other expense, net	(2)	(1)	(2)	(1)
Loss before (provision for) benefit from income taxes	(17)	(15)	(44)	(26)
(Provision for) benefit from income taxes	—	—	—	1
Net loss	(17)	(15)	(44)	(26)
Net loss available to common stockholders	(22)%	(17)%	(47)%	(28)%

(1) Includes stock-based compensation as follows:				
Cost of revenue - Other	0.2%	0.2%	0.2%	0.2%
Cost of revenue - Ticketing service	—	—	—	—
Product development	2.2	2.1	2.4	2.1
Sales and marketing	3.7	2.7	4.0	3.0
General and administrative	1.8	1.9	2.6	2.0
Note: Amounts may not recalculate due to rounding				

Revenue

	Three months ended September 30,			Nine months ended September 30,		
	2017	2018	$ Change	2017	2018	$ Change
	(in thousands)			(in thousands)		
Revenue						
Advertising	$ 275,741	$ 291,856	$ 16,115	$ 777,253	$ 777,480	$ 227
Subscription and other	84,414	125,772	41,358	218,192	344,175	125,983
Ticketing service	18,484	—	(18,484)	76,032	—	(76,032)
Total revenue	$ 378,639	$ 417,628	$ 38,989	$ 1,071,477	$ 1,121,655	$ 50,178

Advertising revenue

We generate advertising revenue in contracts with customers primarily from audio, display and video advertising. We generate the majority of our advertising revenue through the delivery of advertising impressions sold on a cost per thousand basis (“CPM”). We also offer advertising on other bases such as cost per engagement (“CPE”) and cost per view ("CPV"), under which an advertiser pays us based on the number of times a listener engages with an ad. We generally recognize revenues as these deliveries occur. Our contracts for advertising revenues are typically less than twelve months in duration. For the three months ended September 30, 2017 and 2018 and the nine months ended September 30, 2017 and 2018 , advertising revenue accounted for 73% , 70% , 73% and 69% of our total revenue. We expect that advertising will comprise a majority of revenue for the foreseeable future.

For the three months ended September 30, 2018 compared to 2017 , advertising revenue increased $16.1 million or 6% , primarily due to our off-platform revenue related to the AdsWizz acquisition and an increase in the average price per ad due to new advertising products resulting in improved monetization. This is offset by a decrease in ad hours resulting in a lower number of ads sold.

For the nine months ended September 30, 2018 compared to 2017 , advertising revenue was relatively flat and increased $0.2 million despite increases in the average price per ad due to new advertising products resulting in improved monetization and increases in our off-platform revenue related to the AdsWizz acquisition, which were offset by a decrease in the number of ads sold and the termination of our services in Australia and New Zealand.

Subscription and other revenue

Subscription and other revenue is generated primarily through the sale of monthly or annually paid subscriptions to Pandora Plus and Pandora Premium. The enforceable rights in monthly subscription contracts are the monthly service period, whereas the annual subscriptions are cancelable at any time. For monthly subscriptions where there are no cancellation provisions, we recognize revenue on a straight-line basis over the monthly service term. Because of the cancellation clauses for the annual subscriptions, the duration of these contracts is daily, and revenue for these contracts is recognized on a daily ratable basis. Historically, cancellation rates have been immaterial. For the three months ended September 30, 2017 and 2018 and the nine months ended September 30, 2017 and 2018 , subscription and other revenue accounted for 22% , 30% , 20% and 31% of our total revenue.

For the three and nine months ended September 30, 2018 compared to 2017 , subscription and other revenue increased $41.4 million or 49% and $126.0 million or 58% , respectively, primarily due to an increase in the number of subscribers and an increase in the average price per paid subscriber due to the growth of Pandora Premium.

Ticketing service

Ticketing service revenue was generated primarily from service and merchant processing fees generated on ticket sales through the Ticketfly platform. On September 1, 2017, we completed the sale of Ticketfly to Eventbrite. Ticketfly sells tickets to fans for events on behalf of clients and charges a fee per ticket or a percentage of the total convenience charge and order processing fee for its services at the time the ticket for an event is sold. Ticketing service revenue was recorded net of the face value of the ticket at the time of the sale, as Ticketfly generally acts as the agent in these transactions. For the three and nine months ended September 30, 2017 , ticketing service revenue accounted for approximately 5% and 7% of our total revenue. There was no ticketing service revenue in the three and nine months ended September 30, 2018 . Refer to Note 9 "Dispositions" in the Notes to the Condensed Consolidated Financial Statements for further details on the Ticketfly disposition.

Costs and Expenses

Cost of revenue consists of cost of revenue—content acquisition costs, cost of revenue—other and cost of revenue— ticketing. Our operating expenses consist of product development, sales and marketing and general and administrative costs. Cost of revenue—content acquisition costs are the largest component of our costs and expenses, followed by employee-related costs, which include stock-based compensation expenses.

Cost of revenue—Content acquisition costs

	Three months ended September 30,			Nine months ended September 30,		
	2017	2018	$ Change	2017	2018	$ Change
	(in thousands)			(in thousands)		
Cost of revenue—Content acquisition costs	$ 204,222	$ 222,191	$ 17,969	$ 587,517	$ 666,631	$ 79,114

Cost of revenue—content acquisition costs primarily consist of licensing fees paid for streaming music or other content to our listeners. We have obtained the rights to stream the majority of sound recordings on our service through direct license agreements, with the costs for such licenses determined according to the terms of each agreement. If we have not entered into a direct license agreement with the copyright owner of a particular sound recording that is streamed on our services, we stream that sound recording pursuant to a statutory license and pay the applicable per play rates set by the CRB. We obtained the rights to the majority of the musical works streamed on our service through direct licensing agreements with PROs or publishers, with the costs for such licenses based on a percentage of the content acquisition costs we paid for sound recordings.

The majority of our content acquisition costs were calculated using negotiated rates in direct license agreements with record labels, music publishers and PROs. Depending on the applicable service, our sound recording license agreements generally require us to pay either a per-performance fee based on the number of sound recordings we transmit, a percentage of revenue associated with the service, or a per-subscriber minimum amount.

For our ad-supported service, the majority of our content acquisition costs for musical works are based on a percentage of content acquisition costs paid for sound recordings.

For our subscription services, content acquisition costs for musical works are determined in accordance with the statutory license set forth in 17 U.S.C. § 115. Certain of our direct license agreements are also subject to minimum guarantee payments, some of which are paid in advance and amortized over the minimum guarantee period. For certain content acquisition arrangements, we accrue for estimated content acquisition costs based on the available facts and circumstances and adjust these estimates as more information becomes available. For additional information, see above in "Factors Affecting Our Business Model —Content Acquisition Costs".

For the three months ended September 30, 2018 compared to 2017 , content acquisition costs increased $18.0 million or 9% and content acquisition costs as a percentage of total revenue decreased from 54% to 53% . The decrease in content acquisition costs as a percentage of total revenue is primarily due to improved monetization related to new advertising products and a decrease in minimum guarantee accruals related to our direct license agreements with major and independent labels, distributors, PROs and publishers and a decrease to royalty obligations with certain labels.

For the nine months ended September 30, 2018 compared to 2017 , content acquisition costs increased $79.1 million or 13% and content acquisition costs as a percentage of total revenue increased from 55% to 59% . The increase in content acquisition costs as a percentage of revenue is primarily due to minimum guarantee accruals related to our direct license agreements with major and independent labels, distributors, PROs and publishers and, to a lesser degree, an increase in rates determined by the Section 115 ruling.

Cost of revenue—Other

	Three months ended September 30,			Nine months ended September 30,		
	2017	2018	$ Change	2017	2018	$ Change
	(in thousands)			(in thousands)		
Cost of revenue—Other	$ 27,287	$ 39,308	$ 12,021	$ 80,259	$ 98,884	$ 18,625

Cost of revenue—other consists primarily of ad and music serving costs, costs associated with our off-platform revenue, employee-related costs, facilities and equipment costs, other costs of ad sales and amortization expense related to acquired intangible assets and internal-use software. Ad and music serving costs consist of content streaming, maintaining our streaming radio and on-demand subscription services and creating and serving advertisements through third-party ad servers. We make payments to third-party ad servers for the period the advertising impressions are delivered or click-through actions occur, and accordingly, we record this as a cost of revenue in the related period. Costs associated with our off-platform revenue consist primarily of costs paid to third party publishers related to revenues generated through the placement of ads on their properties. Employee-related costs include salaries and benefits associated with supporting music and ad-serving functions. Other costs of ad sales include costs related to music events that are included as part of certain of our advertising arrangements.

For the three months ended September 30, 2018 compared to 2017 , cost of revenue—other increased $12.0 million or 44% , primarily due to a $5.9 million increase in expense related to costs associated with our off-platform revenue, a $2.4 million increase in spend on audience targeting and a $2.8 million increase in amortization expense of acquired intangible assets and internal-use software related to the launch Premium Access.

For the nine months ended September 30, 2018 compared to 2017 , cost of revenue—other increased $18.6 million or 23% , primarily due to an $8.0 million increase in expense related to costs associated with our off-platform revenue, a $4.5 million increase in amortization expense of internal-use software related to the launch of Pandora Premium and Premium Access and a $3.6 million increase in spend on audience targeting.

Cost of revenue—Ticketing service

	Three months ended September 30,			Nine months ended September 30,		
	2017	2018	$ Change	2017	2018	$ Change
	(in thousands)			(in thousands)		
Cost of revenue—Ticketing service	$ 11,269	$ —	$ (11,269)	$ 50,397	$ —	$ (50,397)

Cost of revenue—ticketing service consisted primarily of ticketing revenue share costs, hosting costs, credit card fees and other cost of revenue and intangible amortization expense. The majority of these costs were related to revenue share costs, which consisted of fees paid to clients for their share of convenience and order processing fees. Intangible amortization expense was related to amortization of developed technology acquired in connection with the Ticketfly acquisition. On September 1, 2017, we completed the sale of Ticketfly to Eventbrite. Refer to Note 9 "Dispositions" in the Notes to the Condensed Consolidated Financial Statements for further details on the Ticketfly disposition.

Gross margin

	Three months ended September 30,			Nine months ended September 30,		
	2017	2018	$ Change	2017	2018	$ Change
	(in thousands)			(in thousands)		
Gross profit						
Total revenue	$ 378,639	$ 417,628	$ 38,989	$ 1,071,477	$ 1,121,655	$ 50,178
Total cost of revenue	242,778	261,499	18,721	718,173	765,515	47,342
Gross profit	$ 135,861	$ 156,129	$ 20,268	$ 353,304	$ 356,140	$ 2,836
Gross margin	36%	37%		33%	32%	

For the three months ended September 30, 2018 compared to 2017 , gross margin increased from 36% to 37% . The increase is primarily due to improved monetization associated with our new advertising products.

For the nine months ended September 30, 2018 compared to 2017 , gross margin decreased from 33% to 32% . The decrease is primarily due to an increase in content acquisition costs associated with the growth of Pandora Premium, minimum guarantee accruals related to our direct license agreements with major and independent labels, distributors, PROs and publishers and, to a lesser degree, an increase in rates determined by the Section 115 ruling.

Product development

	Three months ended September 30,			Nine months ended September 30,		
	2017	2018	$ Change	2017	2018	$ Change
	(in thousands)			(in thousands)		
Product development	$ 39,469	$ 42,553	$ 3,084	$ 120,290	$ 118,788	$ (1,502)

Product development consists primarily of employee-related costs, including salaries, benefits and severance related to employees in software engineering, music analysis and product management departments, facilities and equipment costs and amortization expense related to acquired intangible assets. We incur product development expenses primarily for improvements to our platform, development of new services and enhancement of existing services, development of new advertising products and development and enhancement of our personalized playlisting system. We have generally expensed product development as incurred. These amounts are offset by costs that we capitalize to develop software for internal use. Certain internal use software development costs are capitalized when specific criteria are met. In such cases, the capitalized amounts are amortized over the useful life of the related application once the application is placed in service.

For the three months ended September 30, 2018 compared to 2017 , product development expenses increased by $3.1 million or 8% , primarily due to a $3.3 million increase in employee expenses due to the AdsWizz acquisition and investment in product, offset by a $1.2 million increase in capitalized personnel driven by increased software development hours.

For the nine months ended September 30, 2018 compared to 2017 , product development expenses decreased by $1.5 million or 1% , primarily due to a $2.9 million decrease in expenses for Pandora Premium prior to launch, which included amortization expense of acquired intangible assets reclassified to cost of revenue—other and other professional fees. This was offset by a $1.6 million increase in equipment costs for ongoing product development activities.

Sales and marketing

	Three months ended September 30,			Nine months ended September 30,		
	2017	2018	$ Change	2017	2018	$ Change
	(in thousands)			(in thousands)		
Sales and marketing	$ 107,588	$ 124,760	$ 17,172	$ 378,581	$ 374,351	$ (4,230)

Sales and marketing consists primarily of employee-related costs, including salaries, commissions, benefits and severance related to employees in sales, sales support, marketing, advertising and industry relations and artist marketing departments and facilities and equipment costs. In addition, sales and marketing expenses include commissions on subscription

purchases through mobile app stores ("subscription commissions"), external sales and marketing expenses such as brand marketing, advertising, customer acquisition, direct response and search engine marketing costs, public relations expenses, costs related to music events, agency platform and media measurement expenses and amortization expense related to acquired intangible assets.

For the three months ended September 30, 2018 compared to 2017 , sales and marketing expenses increased $17.2 million or 16% , primarily due to a $16.1 million increase in direct marketing costs and a $5.4 million increase in subscription commissions driven by an increase in subscribers as a result of Pandora Premium subscription growth. This was offset by a $4.4 million decrease in employee-related costs driven by a decrease in average headcount primarily related to efficiency initiatives and the sale of Ticketfly.

For the nine months ended September 30, 2018 compared to 2017 , sales and marketing expenses decreased $4.2 million or 1% , primarily due to a $26.7 million decrease in employee-related and facilities costs driven by efficiency initiatives and the sale of Ticketfly and a $5.3 million decrease in client signing bonus and intangible asset amortization related to the sale of Ticketfly. This was offset by a $21.9 million increase in subscription commissions driven by an increase in subscribers primarily as a result of Pandora Premium subscription growth and a $2.9 million net increase in marketing expense related to the strategic shift from brand marketing to direct marketing.

General and administrative

	Three months ended September 30,			Nine months ended September 30,		
	2017	2018	$ Change	2017	2018	$ Change
	(in thousands)			(in thousands)		
General and administrative	$ 48,171	$ 47,273	$ (898)	$ 150,650	$ 142,521	$ (8,129)

General and administrative consists primarily of employee-related costs, including salaries, benefits and severance expense for finance, accounting, legal, internal information technology and other administrative personnel, and facilities and equipment costs. In addition, general and administrative expenses include legal expenses, professional fees for outside accounting and other services, credit card fees and sales and other tax expense.

For the three months ended September 30, 2018 compared to 2017 , general and administrative expenses remained relatively flat, decreasing by $0.9 million or 2% , primarily due to the prior year loss recognized on the sale of Ticketfly of $9.4 million, offset by a $9.2 million increase in transaction related costs to advisers for the planned acquisition by Sirius XM and the 2018 restructuring plan.

For the nine months ended September 30, 2018 compared to 2017 , general and administrative expenses decreased $8.1 million or 5% , primarily driven by a $13.7 million decrease in employee-related costs as a result of efficiency initiatives and the absence of prior year executive severance costs and an $8.7 million decrease in legal fees primarily related to the rate-setting proceedings under Section 115. Additionally, there were several non-recurring costs in 2017 such as the loss on the sale of Ticketfly of $9.4 million and $6.9 million of bad debt expense related to our former ticketing service. These were offset by non-recurring costs in 2018 such as $17.0 million in transaction related costs to advisers for the planned acquisition by Sirius XM, the AdsWizz acquisition and the 2018 restructuring plan and a $14.6 million loss on extinguishment of convertible debt.

Goodwill impairment

	Three months ended September 30,			Nine months ended September 30,		
	2017	2018	$ Change	2017	2018	$ Change
	(in thousands)			(in thousands)		
Goodwill impairment	$ —	$ —	$ —	$ 131,997	$ —	$ (131,997)

For the nine months ended September 30, 2017 , goodwill impairment was $132.0 million and consisted primarily of $131.7 million of impairment expense related to the write down of Ticketfly goodwill which was based on the fair value of Ticketfly's net assets as implied by the estimated purchase price of $184.5 million, which includes an aggregate purchase price

of $200.0 million, less estimated purchase price adjustments of $10.9 million for certain indemnification provisions and costs to sell of $4.8 million.

Contract termination fee

	Three months ended September 30,			Nine months ended September 30,		
	2017	2018	$ Change	2017	2018	$ Change
	(in thousands)			(in thousands)		
Contract termination fee	$ (423)	$ —	$ 423	$ 23,044	$ —	$ (23,044)

For the three months ended September 30, 2017, contract termination benefit was $0.4 million and consisted of a change in estimate of legal and professional fees related to the termination of the contractual commitment with KKR Classic Investors L.P. ("KKR"). In May 2017, we entered into an agreement to sell redeemable convertible preferred stock to KKR. In conjunction with the Series A, we terminated the contractual commitment to sell redeemable convertible preferred stock to KKR, which resulted in contract termination fees, including the related legal and professional fees.

For the nine months ended September 30, 2017, contract termination fees were $23.0 million and consisted of fees related to the termination of the contractual commitment with KKR.

Interest expense

Interest expense in the three and nine months ended September 30, 2017 and 2018 consists primarily of interest expense on our 1.75% 2020 Notes, 1.75% 2023 Notes and our credit facility. Refer to Note 11 "Debt Instruments" in the Notes to Condensed Consolidated Financial Statements for further details on our Notes and credit facility.

Provision for income taxes

We have historically been subject to income taxes in the United States and various foreign jurisdictions. If we expand our operations to other foreign locations, we become subject to taxation based on the applicable foreign statutory rates and our effective tax rate could fluctuate accordingly.

Our provision for income taxes is computed using the asset and liability method, under which deferred tax assets and liabilities are determined based on the difference between the financial statement and tax bases of assets and liabilities using enacted statutory income tax rates in effect for the year in which the differences are expected to affect taxable income. Valuation allowances are established when necessary to reduce net deferred tax assets to the amount expected to be realized.

On December 22, 2017, the Tax Cut and Jobs Act was signed into law, which enacted significant changes to U.S. tax and related laws. Some of the provisions of the new tax law affecting corporations include, but are not limited to a reduction of the federal corporate income tax rate from 35% to 21% , limiting the interest expense deduction, expensing of cost of acquired qualified property and allowing net operating losses generated in taxable years ending after December 31, 2017 to be carried forward indefinitely. Refer to Note 16 "Income Taxes" in the Notes to Condensed Consolidated Financial Statements for further details on the impact of the new tax law on our consolidated financial statements.

Off-Balance Sheet Arrangements

Our liquidity is not dependent on the use of off-balance sheet financing arrangements and as of September 30, 2018 we had no such arrangements.

Contractual Obligations

There has been no material change in our contractual obligations other than in the ordinary course of business since the year ended December 31, 2017 .

Quarterly Trends

Our operating results fluctuate from quarter to quarter as a result of a variety of factors. We expect our operating results to continue to fluctuate in future quarters.

Pandora—Streaming Radio and On-Demand Music Services

Our results reflect the effects of seasonal trends in listener, subscriber and advertising behavior. During the last quarter of each calendar year, and particularly during the holiday season, we expect to experience both higher advertising sales due to greater advertiser demand during the holiday season and increased usage of our service due to the popularity of holiday music. In addition, in the first quarter of each calendar year, we expect to experience lower advertising sales due to reduced advertiser demand, but sustained higher levels of subscriptions and usage by listeners due to increased use of media-streaming devices and subscriptions received as gifts during the holiday season. We believe these seasonal trends have affected, and will continue to affect our operating results, particularly if increases in content acquisition costs from increased usage are not offset by increases in advertising sales in the first calendar quarter.

In addition, expenditures by advertisers tend to be cyclical and discretionary in nature, reflecting overall economic conditions, the economic prospects of specific advertisers or industries, budgeting constraints and buying patterns and a variety of other factors, many of which are outside our control. Also, as we expand our programmatic offering, trends in our revenue may differ from historical results as programmatic revenue is typically non-guaranteed and less predictable compared to more traditional channels of revenue. As a result of these and other factors, the results of any prior quarterly or annual periods should not be relied upon as indications of our future operating performance.

Liquidity and Capital Resources

As of September 30, 2018 , we had cash, cash equivalents and investments totaling $387.6 million , which primarily consisted of cash and money market funds held at major financial institutions and investment-grade commercial paper and corporate debt securities.

Our principal uses of cash during the three and nine months ended September 30, 2018 were funding our operations, as described below, and capital expenditures.

Sources of Funds

We believe, based on our current operating plan, that our existing cash and cash equivalents and additional sources of funding will be sufficient to meet our anticipated cash needs for at least the next year.

From time to time, we may explore additional financing sources and means to lower our cost of capital, which could include equity, equity-linked and debt financing. In addition, in connection with any future acquisitions, we may require additional funding which may be provided in the form of additional debt, equity or equity-linked financing or a combination thereof. There can be no assurance that any additional financing will be available to us on acceptable terms.

In connection with the execution of the Merger Agreement with Sirius XM on September 23, 2018, we agreed to various customary covenants, including, among others, covenants related to (i) the conduct of our business during the interim period between the execution of the Merger Agreement and the closing of the transaction, (ii) the amendment and restatement of organizational documents, (iii) the acquisition, disposition and transfer of assets, (iv) the entry into material contracts and (v) the issuance, sale, pledge or encumbrance of capital stock. We do not believe the restrictions resulting from these covenants will prevent us from sufficiently funding our operations, including satisfying our obligations and meeting general working capital needs, over the next twelve months.

The Merger Agreement provides certain termination rights for Sirius XM and us. Upon termination of the Merger Agreement under specified circumstances, we may be required to pay Sirius XM a termination fee of $105.0 million.

Our Indebtedness

Credit Facility

On December 29, 2017, we entered into a credit facility for an aggregate commitment amount of $200.0 million , with an option to increase the commitment amount by $50.0 million . As of September 30, 2018 the credit facility had a maturity date of the earliest of December 29, 2022; 120 days prior to the 2020 Notes maturity date of December 1, 2020, provided that the 2020 Notes have not been converted into common stock prior to such date; or 120 days prior to the Series A redeemable convertible

preferred stock ("Series A") redemption date of September 22, 2022, provided that the Series A have not been converted into common stock prior to such date.

As of September 30, 2018 , we had no outstanding borrowings, $0.8 million in letters of credit outstanding and $199.2 million of available borrowing capacity under the credit facility. We are in compliance with all financial covenants associated with the credit facility as of September 30, 2018 . Refer to Note 11 "Debt Instruments" in the Notes to Consolidated Financial Statements for further details regarding our credit facility.

2020 Notes and 2023 Notes

On December 9, 2015, we completed an unregistered Rule 144A offering of $345.0 million aggregate principal amount of our 1.75% 2020 Notes. The net proceeds from the sale of the 2020 Notes were approximately $336.5 million, after deducting the initial purchaser's fees and other estimated expenses. We used approximately $43.2 million of the net proceeds to pay the cost of the capped call transactions.

On May 24, 2018, we completed an exchange of $192.9 million in aggregate principal of the 2020 Notes in separate transactions with the note holders. Pursuant to the exchange, the note holders received $192.9 million in aggregate principal of the new 1.75% 2023 Notes. Refer to Note 11 "Debt Instruments" in the Notes to Condensed Consolidated Financial Statements for further details on our 2020 and 2023 Notes.

Redeemable Convertible Preferred Stock

In June 2017, we entered into an agreement with Sirius XM Radio Inc. ("Sirius XM Radio") to sell 480,000 shares of Series A redeemable convertible preferred stock ("Series A") for $1,000 per share, with gross proceeds of $480.0 million . The Series A shares were issued in two rounds: an initial closing of 172,500 shares for $172.5 million that occurred on June 9, 2017 upon signing the agreement with Sirius XM Radio, and an additional closing of 307,500 shares for $307.5 million that occurred on September 22, 2017 upon the receipt of antitrust clearance and the completion of other customary closing conditions. Refer to Note 12 "Redeemable Convertible Preferred Stock" in the Notes to Condensed Consolidated Financial Statements for further details on the redeemable convertible preferred stock.

Capital Expenditures

Consistent with previous periods, future capital expenditures will primarily focus on acquiring additional hosting and general corporate infrastructure. Our access to capital is adequate to meet our anticipated capital expenditures for our current plans.

Historical Trends

The following table summarizes our cash flow data for the nine months ended September 30, 2017 and 2018 .

	Nine months ended September 30,	
	2017	2018
	(in thousands)	
Net cash used in operating activities	$ (218,627)	$ (59,101)
Net cash provided by (used in) investing activities	133,187	(152,281)
Net cash provided by (used in) financing activities	376,564	(1,602)

Operating activities

In the nine months ended September 30, 2018 , net cash used in operating activities was $59.1 million and primarily consisted of our net loss of $287.4 million , which was partially offset by non-cash charges of $161.4 million of which the most significant included $82.8 million in stock-based compensation expense, $44.2 million in depreciation and amortization expense, $14.6 million in loss on the extinguishment of our convertible debt and $15.4 million in amortization of debt discount. Net cash used in operating activities also included an increase in accounts receivable of $20.2 million and was partially offset by an increase in accrued content acquisition costs of $26.2 million , an increase in accounts payable, accrued and other liabilities of $26.2 million , an increase in deferred revenue of $14.9 million and a decrease in prepaid content acquisition costs

of $32.5 million . Net cash used in operating activities decreased by $159.5 million from the nine months ended September 30, 2017 , primarily due to a $186.3 million decrease in our net loss largely due to a goodwill impairment charge of $132.0 million , improvements in operating costs and an increase in positive working capital of $126.5 million . This was offset by a charge for loss on extinguishment of convertible debt of $14.6 million .

Investing activities

In the nine months ended September 30, 2018 , net cash used in investing activities was $152.3 million and included $244.7 million in purchases of short-term investments, $66.9 million in payments related to acquisition, net of cash acquired and $15.2 million of capital expenditures for internal-use software, leasehold improvements and server equipment. These payments were offset by $147.2 million in proceeds from maturities of investments and $34.7 million in proceeds from the cancellation of the Convertible Promissory Note. Net cash used in investing activities increased by $285.5 million from the nine months ended September 30, 2017 , primarily due to the purchase of short-term investments of $244.7 million and payments related to the acquisition of AdsWizz of $66.9 million , offset by net proceeds from the cancellation of the Convertible Promissory Note of $34.7 million and an increase in proceeds from maturities of investments of $110.1 million .

Financing activities

In the nine months ended September 30, 2018 , net cash used in financing activities was $1.6 million and consisted of payment of issuance costs related to the convertible debt exchange of $4.9 million and tax withholdings related to net share settlements of restricted stock units of $1.7 million . These payments were offset by proceeds from the employee stock purchase plan of $4.2 million . Net cash used in financing activities increased $378.2 million from the nine months ended September 30, 2017 primarily due to a decrease in proceeds from issuance of redeemable convertible preferred stock of $480.0 million , offset by a decrease in the repayment of debt arrangements of $90.0 million .

Critical Accounting Policies and Estimates

Our discussion and analysis of our financial condition and results of operations is based upon our condensed consolidated financial statements, which have been prepared in accordance with U.S. GAAP. The preparation of these condensed consolidated financial statements requires us to make estimates, judgments and assumptions that affect the reported amounts of assets, liabilities, revenue and expenses and the related disclosure of contingent assets and liabilities. We base our estimates on historical experience and on various other assumptions that we believe are reasonable under the circumstances. Our estimates form the basis for our judgments about the carrying values of assets and liabilities that are not readily apparent from other sources. Actual results may differ from these estimates.

An accounting policy is considered to be critical if it requires an accounting estimate to be made based on assumptions about matters that are highly uncertain at the time the estimate is made, and if different estimates that reasonably could have been used, or changes in the accounting estimate that are reasonably likely to occur, could materially impact the condensed consolidated financial statements. We believe that our critical accounting policies reflect the more significant estimates and assumptions used in the preparation of the condensed consolidated financial statements.

Other than discussed below, there have been no material changes to our critical accounting policies and estimates as compared to those described in our Annual Report on Form 10-K for the year ended December 31, 2017 under the caption "Management’s Discussion and Analysis of Financial Condition and Results of Operations—Critical Accounting Policies and Estimates."

Revenue Recognition

Revenues are recognized when a contract with a customer exists, and the control of the promised services are transferred to our customers, in an amount that reflects the consideration we expect to receive in exchange for those services. Substantially all of our revenues are generated from contracts with customers in the United States.

Gross versus net revenue recognition

We report revenue on a gross or net basis based on management’s assessment of whether we act as a principal or agent in the transaction. To the extent we act as the principal, revenue is reported on a gross basis unless we are unable to determine the amount on a gross basis, in which case we report revenue on a net basis. The determination of whether we act as a principal or an agent in a transaction is based on an evaluation of whether we control the good or service prior to transfer to the customer. We have determined that we act as the principal in all of our revenue streams.

Advertising Revenue

We generate advertising revenue primarily from audio, display and video advertising. We generate the majority of our advertising revenue through the delivery of advertising impressions sold on a CPM basis. We also offer advertising on other units of measure, CPE and CPV, under which an advertiser pays us based on the number of times a listener engages with an ad.

We determine that a contract exists when we have an agreed-to insertion order, whether by signature or a fully executed customer-specific agreement. The duration of our contracts is generally less than one year. Revenue is recognized as performance obligations are satisfied, which generally occurs as ads are delivered. We generally recognize revenue based on delivery information from our campaign trafficking systems. Certain advertising arrangements include performance obligations other than advertising, such as music events. For these performance obligations, revenue is recognized when the customer obtains control of the promised services, such as when a music event occurs.

Certain customers may receive cash-based incentives or rebates, which are accounted for as variable consideration in the determination of the transaction price. We use the expected value method to estimate the value of such variable consideration to include in the transaction price and reflect changes to such estimates in the period in which they occur. The amount of variable consideration included in revenues is limited to the extent that it is probable that the amount will not be subject to a significant reversal when the uncertainty associated with the variable consideration is subsequently resolved.

Certain contracts include added value ("AV") elements, under which the customer may receive credits for free advertising services in exchange for advertising spend commitments, either based on total contract amount, defined spend tiers or overall commitments across multiple contracts. We have determined that these AV elements represent a material right to the customer, and therefore are treated as distinct performance obligations. We determine an estimated selling price for these items and include them in the allocation of the transaction price of a contract or series of contracts, as applicable. If we are unable to accurately estimate the selling price for these items, our advertising revenue could be misstated and have a material adverse effect on our business, financial condition and results of operations.

Arrangements with multiple performance obligations—Advertising revenue

Our contracts with customers may include multiple performance obligations. For such arrangements, we allocate revenue to each performance obligation based on its relative standalone selling price. We generally determine standalone selling prices based on an analysis of the historical prices charged to customers, or estimate the stand alone selling price using expected cost plus margin.

Subscription and Other Revenue

We generate revenue for our subscription services on both a direct basis and through subscriptions sold through certain third-party mobile device app stores. For subscriptions sold through third-party mobile device app stores, the subscriber executes a click-through agreement with Pandora outlining the terms and conditions between Pandora and the subscriber upon purchase of the subscription. The mobile device app stores promote the Pandora app through their e-store, process payments for subscriptions, and retain a percentage of revenue as a fee. We report this revenue gross of the fee retained by the mobile device app stores, as the subscriber is Pandora's customer in the contract and controls the service prior to the transfer to the subscriber.

Subscription revenue is a series type performance obligation and is recognized net of sales tax amounts collected from subscribers. The enforceable rights in monthly subscription contracts are the monthly service period, whereas the annual subscriptions are cancelable at any time. Because of the cancellation clauses for the annual subscriptions, the duration of these contracts is daily and are recognized on a daily ratable basis. For monthly subscriptions where there is no cancellation provision, we recognize revenue on a straight-line basis over the monthly service term. Historically, cancellation rates have been immaterial.

Subscription revenue from monthly subscriptions sold indirectly through mobile device app stores may be subject to partners' refund or cancellation terms. Revenues are recognized net of any adjustments, including refunds and other fees, as reported by the partners.

Business Combinations, Goodwill and Intangible Assets, net

We allocate the fair value of purchase consideration to the tangible assets acquired, liabilities assumed, intangible assets acquired based on their estimated fair values. The excess of the fair value of purchase consideration over the fair values of these

identifiable assets and liabilities is recorded as goodwill. Additionally, any contingent consideration is recorded at fair value on the acquisition date and classified as a liability. Such valuations require management to make significant estimates and assumptions, especially with respect to intangible assets and contingent consideration. Significant estimates in valuing certain intangible assets include, but are not limited to, future expected cash flows from acquired users, acquired technology, and trade names from a market participant perspective, useful lives and discount rates. Management's estimates of fair value are based upon assumptions believed to be reasonable, but which are inherently uncertain and unpredictable and, as a result, actual results may differ from estimates. During the measurement period, we may record adjustments to the assets acquired and liabilities assumed, with the corresponding offset to goodwill. Upon the conclusion of the measurement period, any subsequent adjustments are recorded to earnings.

We test goodwill and intangible assets with indefinite useful lives for impairment at least annually, or more frequently if events or changes in circumstances indicate that the assets may be impaired. We perform our annual goodwill and intangible asset impairment tests in the fourth quarter of each year.

Acquired finite-lived intangible assets are amortized over the estimated useful lives of the assets, which range from three to eleven years. Acquired finite-lived intangible assets consist primarily of patents, customer relationships, developed technology and trade names resulting from business combinations. We evaluate the recoverability of our intangible assets for potential impairment whenever events or circumstances indicate that the carrying amount of such assets may not be recoverable. Recoverability of these assets is measured by a comparison of the carrying amounts to the future undiscounted cash flows the assets are expected to generate. If such review indicates that the carrying amount of intangible assets is not recoverable, the carrying amount of such assets is reduced to the fair value.

In addition to the recoverability assessment, we routinely review the remaining estimated useful lives of finite-lived intangible assets. If we reduce the estimated useful life assumption for any asset, the remaining unamortized balance would be amortized over the revised estimated useful life. We record the amortization of intangible assets to the financial statement line item in our consolidated statement of operations that the asset directly relates to. To the extent that purchased intangibles are used in revenue generating activities, we record the amortization of these intangible assets to cost of revenue.

Item 3. Quantitative and Qualitative Disclosure About Market Risk

Interest Rate Fluctuation Risk

There have been no material changes in our primary market risk exposures or how those exposures are managed from the information disclosed in Part II, Item 7A of our Annual Report on Form 10-K for the year ended December 31, 2017 . For further discussion of quantitative and qualitative disclosures about market risk, reference is made to our Annual Report on Form 10-K.

Item 4. Controls and Procedures

Evaluation of Disclosure Controls and Procedures

We maintain "disclosure controls and procedures," as such term is defined in Rule 13a-15(e) under the Exchange Act, that are designed to ensure that information required to be disclosed by us in reports that we file or submit under the Exchange Act is recorded, processed, summarized and reported within the time periods specified in SEC rules and forms, and that such information is accumulated and communicated to our management, including our Chief Executive Officer and Chief Financial Officer, as appropriate to allow timely decisions regarding required disclosure. In designing and evaluating our disclosure controls and procedures, management recognizes that disclosure controls and procedures, no matter how well conceived and operated, can provide only reasonable, not absolute, assurance that the objectives of the disclosure controls and procedures are met. Additionally, in designing disclosure controls and procedures, our management necessarily was required to apply its judgment in evaluating the cost-benefit relationship of possible disclosure controls and procedures. Based on this evaluation at the end of the period covered by this Quarterly Report on Form 10-Q, our Chief Executive Officer and Chief Financial Officer have concluded that our disclosure controls and procedures were effective at the reasonable assurance level as of September 30, 2018 .

Changes in Internal Control over Financial Reporting

There have been no other changes in our internal control over financial reporting (as defined in Rules 13a-15(f) and 15d-15(f) under the Exchange Act) during the period covered by this Quarterly Report on Form 10-Q that has materially affected, or is reasonably likely to materially affect our internal control over financial reporting.

PART II. OTHER INFORMATION

Item 1. Legal Proceedings

The material set forth in Note 6 in the Notes to Condensed Consolidated Financial Statements in Part I, Item 1 of this Quarterly Report on Form 10-Q is incorporated herein by reference.

Item 1A. Risk Factors

Investing in our common stock involves a high degree of risk. Before deciding to invest in our common stock, you should carefully consider each of the risk factors associated with the Company's business previously disclosed in Part I, Item 1A of our Annual Report on Form 10-K for the year ended December 31, 2017 and in Part I, Item 1A of our Quarterly Report on Form 10-Q for the quarter ended June 30, 2018. Those risks and the risks described in this Quarterly Report on Form 10-Q, including in the section entitled "Management's Discussion and Analysis of Financial Condition and Results of Operations," could materially harm our business, financial condition, operating results, cash flow and prospects. If that occurs, the trading price of our common stock could decline, and you may lose all or part of your investment.

There have been no material changes to the Risk Factors described under “Part I—Item 1A. Risk Factors” in our Annual Report on Form 10-K for the year ended December 31, 2017 , other than as set forth below and as set forth in Part I, Item 1A of our Quarterly Report on Form 10-Q for the quarter ended June 30, 2018.

The announcement and pendency of the Merger Agreement with Sirius XM could have an adverse effect on our business, financial condition or results of operations.

As described previously, on September 23, 2018, we entered in to an Agreement and Plan of Merger and Reorganization (the "Merger Agreement") with Sirius XM Holdings Inc. ("Sirius XM"), a Delaware corporation, and White Oaks Acquisition Corp., a Delaware corporation and a wholly owned subsidiary of Sirius XM. Subject to the terms and conditions set forth in the Merger Agreement, the Company will be acquired by and become a wholly owned subsidiary of Sirius XM (the "Merger"). On the date the Merger is effected, all of our common stock issued and outstanding immediately prior to the effective date of the Merger will be converted into the right to receive validly issued, fully paid and non-assessable shares of Sirius XM common stock at an exchange ratio of 1.44. Uncertainty about the impact of the Merger on our employees, customers and other third parties may materially impact our business and operations in an adverse manner. Our employees may experience uncertainty about their roles leading up to and following the Merger, and there can be no assurance we will be able to successfully attract and retain key employees. Any loss of, or distraction to, our employees could have a material adverse effect on our business and operations. We have diverted, and will continue to divert, significant management resources towards the completion of the Merger, which could materially adversely affect our business, financial condition or results of operations. In addition, we have incurred, and will continue to incur, significant expenses for professional services and other transaction costs in connection with the Merger, and many of those expenses are payable by us regardless of whether or not the Merger is consummated.

Our customers and other third parties may experience uncertainty associated with the Merger. Some customers, vendors or other third parties of Pandora may change, delay or defer decisions with respect to existing or future business relationships which could negatively and materially impact our business, financial condition or results of operations.

Pursuant to the terms of the Merger Agreement, we are subject to certain covenants regarding the conduct of our business during the interim period between the execution of the Merger Agreement and the closing of the transaction, including covenants related to our ability to enter into material contracts and acquire or dispose of assets. These covenants may prevent us from taking actions with respect to our business that we may consider advantageous and result in our inability to respond effectively to competitive pressures or industry developments, among other things, which could thereby harm our business, financial condition or results of operations.

Completion of the Merger with Sirius XM is subject to a number of conditions beyond our control. If the Merger is not completed, our stock price may significantly decline, in particular to the extent our stock price reflects an assumption that the Merger will be completed. Failure to complete the Merger may also result in negative publicity and a negative impression of us in the business community. Any adverse effect on our business resulting from the announcement and pendency of the Merger could continue or accelerate in the event of a failure to complete the Merger. Accordingly, our business, financial condition or results of operations may be materially harmed as a result of any failure to complete the Merger.

Item 6. Exhibits

Exhibit No.	Exhibit Description	Incorporated by Reference					Filed Herewith
		Form	File No.	Exhibit	Filing Date	Filed By	
2.01 *	Agreement and Plan of Merger and Reorganization dated as of September 23, 2018, by and among Sirius XM Holdings Inc., a Delaware corporation, White Oaks Acquisition Corp., a Delaware corporation, and Pandora Media, Inc., a Delaware corporation.	8-K	001-35198	2.1	9/24/2018		
3.01	Amended and Restated Certificate of Incorporation	S-1/A	333-172215	3.1	4/4/2011		
3.02	Certificate of Amendment to the Amended and Restated Certificate of Incorporation	10-Q	001-35198	3.02	7/26/2016		
3.03	Certificate of Amendment to the Amended and Restated Certificate of Incorporation	8-K	001-35198	3.01	5/24/2018		
3.04	Amended and Restated Bylaws	8-K	001-35198	3.02	5/24/2018		
3.05	Certificate of Designation of Preferences, Rights and Limitations of Series A Convertible Preferred Stock	8-K	001-35198	3.1	6/14/2017		
4.01	Indenture, dated as of June 1, 2018, between the Company and Citibank, N.A., as Trustee	8-K	001-35198	4.1	6/5/2018		
4.02	Form of 1.75% Convertible Senior Note due 2023 (included in Exhibit 4.1)	8-K	001-35198	4.2	6/5/2018		
10.01 †	Offer letter with Aimée Lapic, dated November 22, 2017						X
10.02	Amendment No. 2 to Credit Agreement, dated as of December 29, 2017, by and among the Company and Pandora Media California, LLC, the lenders party thereto, Wells Fargo Bank, National Association, as Administrative Agent, and JPMorgan Chase Bank, N.A., Morgan Stanley Senior Funding, Inc. and Wells Fargo Bank, National Association as joint lead arrangers and joint book runners, dated September 21, 2018						X
31.01	Certification of the Principal Executive Officer Pursuant to Rule 13a-14(a)/15d-14(a), as adopted pursuant to Section 302 of the Sarbanes-Oxley Act of 2002						X

31.02	Certification of the Principal Financial Officer Pursuant to Rule 13a-14(a)/15d-14(a), as adopted pursuant to Section 302 of the Sarbanes-Oxley Act of 2002	X
32.01	Certification of the Principal Executive Officer and Principal Financial Officer Pursuant to 8 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002	X
101. INS	XBRL Instance Document - the instance document does not appear in the Interactive Data File because its XBRL tags are embedded within the Inline XBRL document	X
101. SCH	XBRL Taxonomy Schema Linkbase Document	X
101.CAL	XBRL Taxonomy Calculation Linkbase Document	X
101. DEF	XBRL Taxonomy Definition Linkbase Document	X
101.LAB	XBRL Taxonomy Labels Linkbase Document	X
101.PRE	XBRL Taxonomy Presentation Linkbase Document	X

* Schedules and exhibits have been omitted pursuant to Item 601(b)(2) of Regulation S-K. A copy of any omitted schedule or exhibit will be furnished on a supplemental basis to the Securities and Exchange Commission upon request; provided, however that we may request confidential treatment pursuant to Rule 24b-2 of the Securities Exchange Act of 1934, as amended, for any schedules or exhibits so furnished.

† Indicates management contract or compensatory plan.

SIGNATURES

Pursuant to the requirements of the Securities Exchange Act of 1934, Pandora Media, Inc. has duly caused this report to be signed on its behalf by the undersigned, thereunto duly authorized.

PANDORA MEDIA, INC.

Date: November 5, 2018

By: /s/ Naveen Chopra

Naveen Chopra
Chief Financial Officer
(Duly Authorized Officer and Principal Financial Officer)

November 22, 2017

Aimée Lapic
aimee.lapic@gmail.com

Re: Employment Offer

Dear Aimée:

On behalf of Pandora Media, Inc. (the " Company "), we are pleased to offer you the position of Chief Marketing Officer. This letter agreement sets forth the terms and conditions of your employment with the Company (" Agreement ") if you accept and commence such employment. Please understand that this offer, if not accepted, will expire on November 24, 2017. In addition, as this is an executive officer position for the Company, your appointment has been approved by the Board of Directors or its Compensation Committee.

1. Responsibilities; Duties . You are expected to begin work on December 13, 2017 (the " Start Date ") contingent on successful completion of your background check. You are required to faithfully and conscientiously perform your assigned duties and to diligently observe all your obligations to the Company. You agree to devote your full business time and efforts, energy and skill to your employment at the Company, and you agree to apply all your skill and experience to the performance of your duties and advancing the Company's interests. During your employment with the Company, you may not perform services as an employee, independent contractor, or consultant of any other competitive organization and you will not assist any other person or organization in competing with the Company or in preparing to engage in competition with the business or proposed business of the Company, including any of its subsidiaries. Any other outside business relationships you engage in should be made known to the Company's General Counsel and CEO in writing. You shall comply with, and be bound by, the Company's operating policies, procedures, and practices from time to time in effect during your employment.

2. Compensation . In consideration for rendering services to the Company during the term of your employment and fulfilling your obligations under this Agreement, you will be eligible to receive the benefits set forth in this Agreement.

a. Base Salary . In this exempt full-time position, you will earn an annual base salary of $450,000 (prorated for any partial pay period that occurs during the term of your employment), subject to applicable tax withholdings. Your salary will be payable pursuant to the Company's regular payroll policy.

b. Business Expenses . The Company shall, upon submission and approval of written statements and bills in accordance with the then regular procedures of the Company, pay or reimburse you for any and all necessary, customary and usual expenses incurred by you while traveling for, or on behalf of, the Company, and any and all other necessary, customary or usual expenses (including entertainment) incurred by you for or on behalf of the Company in the normal course of business, as determined to be appropriate by the Company. It is your responsibility to review and comply with the Company's business expense reimbursement policies.

c. Performance Bonus . You will be eligible to participate in the Corporate Incentive Plan (CIP) with a target bonus of 50% of your base salary, beginning in calendar year 2018. The actual bonus amount paid will be determined in the sole and absolute discretion of the Company's Compensation Committee. Any bonus eligibility for future years will be subject to the terms and conditions of any bonus or incentive compensation plan that the Company adopts at a later time. Nothing hereunder shall be construed or interpreted as a guarantee for you to receive any bonuses or incentive compensation.

d. Retention Bonus . To the extent that you commence employment on the Start Date, you will be eligible to receive a one-time retention bonus in the gross amount of $100,000 subject to applicable tax withholdings. $50,000 of this bonus shall be paid no later than 30 days following your Start Date at the Company. The remaining $50,000 shall be paid no later than 30 days following your 6 month anniversary date. This retention bonus is offered as an incentive for you to stay with the Company. Therefore, if you voluntarily terminate your employment with the Company without "Good Reason" (as defined below) within 12 months of your Start Date or if you are terminated by the Company for "Cause" (as defined below) within 12 months of your Start Date, you shall be required to pay back the Company the amount of the retention bonus you received from the Company (pro-rated based on the remaining number of months between your Start Date and your one-year anniversary). By accepting this offer, you expressly agree that the Company is authorized to deduct and offset repayment of this retention bonus against any sums which are then due to you from the Company at the time of your termination, to the extent permitted by applicable laws. Notwithstanding the foregoing, any then unpaid portion of your retention bonus shall be paid to you within thirty (30) days of the earliest of (i) a Change of Control (as defined in the Pandora Media, Inc. 2011 Equity Incentive Plan (the " Equity Plan "), (ii) the Company's termination of your employment without Cause or (iii) your resignation of employment with the Company for Good Reason, and in such event no portion of the retention bonus shall be subject to any repayment obligation by you.

For purposes of this Offer Letter, "Cause" shall mean (i) a willful failure or a refusal to comply in any material respect with the reasonable policies, standards or regulations of Company, provided that, the Company provides you with a fifteen (15) day cure period to remedy such failure or refusal; (ii) unprofessional, unethical or fraudulent conduct or conduct that materially discredits Company or is materially detrimental to the reputation, character or standing of Company; (iii) dishonest conduct or a deliberate attempt to do an injury to Company; (iv) your material breach of this Agreement or any breach of confidentiality or proprietary information agreements with the Company, including, without limitation, theft of Company's proprietary information; (v) an unlawful or criminal act which reflects badly, or would, if known, reflect badly on the Company in the reasonable judgment of the Compensation Committee of the Board of Directors; or (vi) repeated absence from work without an approved leave, resulting in a job abandonment.

For purposes of this Offer Letter, "Good Reason" shall mean your resignation from employment after the occurrence of one of the following events without your consent: (A) a reduction of your base salary which is not part of a broad cost-cutting effort; (B) the Company's failure to fully cure within thirty (30) days any material breach by the Company of this Agreement which you have notified the Company in writing; or (C) a relocation of your principal place of employment by more than fifty (50) miles; provided that in any event, you must notify the Company of the event

constituting Good Reason within 90 days and give the Company 30 days to cure (to the extent capable of cure), and then you resign within 30 days thereafter.

These definitions of "Cause" or "Good Reason" only apply to this Section 2(d) of this Offer Letter, and not to any other agreements between you and the Company.

3. Employee Benefits . You will be eligible to participate in any employee benefit plans or programs maintained, or established, by the Company including, but not limited to, paid time off, group health benefits, life insurance, dental plan, and other benefits made available generally to employees, subject to eligibility requirements and the applicable terms and conditions of the plan or program in question and the determination of any committee administering such plan or program. To the extent approved by the Board of Directors or its Compensation Committee from time to time, you will be eligible for any severance or change in control policy of the Company that is then applicable to similarly situated U.S. employees. You will be asked to sign an Indemnification Agreement with the Company and be subject to the terms and conditions thereof. You will be an "Eligible Officer" under the Company's Executive Severance and Change in Control Policy ("Severance Policy") and be subject to the terms and conditions thereof. A copy of the Severance Policy (which may be amended from time to time at the discretion of the Board of Directors, or its delegate) is attached for your reference.

4. Equity Grant . In connection with the commencement of your employment, the Company will recommend that the Board of Directors or its Compensation Committee grant you the following equity grants subject to the terms of the Company's equity plan:

a. Restricted Stock Units (the "RSUs") In connection with the commencement of your employment, the Company will grant you an equity award (the "Award") with an intended value of approximately $2,500,000. Assuming you commence your employment on the Start Date, the value of the Award will be converted to a number of Restricted Stock Units ("RSUs") prior to the grant date, using a conversion method that takes the 30-day average stock price prior to your Start Date (with the day immediately prior to your Start Date being the 30 th and final day in that average) to convert the value to a number of RSUs. Twenty-five percent (25%) of the RSUs granted as part of the Award will vest starting with the first standard quarterly Company vesting date that is approximately one year after the grant date and continuing quarterly for three years thereafter. Further, assuming you commence your employment on the Start Date, the vesting commencement date for the RSUs will be November 15, 2017, and the vesting date for the first 25% of the RSUs will be November 15, 2018.

b. Performance-based Equity Award. In addition to the RSUs specified above, you will also be eligible to receive, and the Company will recommend to the Compensation Committee that the Company grant you, a performance-based equity award with a maximum value of $500,000 ("Performance Award") in Q1 2018. The terms of this Performance Award will be consistent with the terms of similar awards granted to similarly situated executive officers of the Company, as approved at the discretion of the Compensation Committee, provided that you remain actively employed as an executive of the Company through the date of the grant and you properly and timely execute any required grant agreements relating to the Performance Award.

c. Vesting of both the RSUs and Performance Award (described above) will, of course, depend on your continued employment with the Company on the applicable vesting dates. The share units will be subject to the terms of the Company's equity incentive plan and the Restricted Stock Unit Agreement and applicable Performance Award agreements between you and the Company. You understand that issuing the equity share units described in this Agreement is expressly contingent on approval by the Board of Directors or its Compensation Committee and receipt of fully executed Restricted Stock Unit Agreement and Performance Award agreement and any related documents as may be requested by the Company.

5. At-Will Employment. Your employment with the Company will be on an "at will" basis, meaning that either you or the Company may terminate your employment at any time without notice and for any reason or no reason, without further obligation or liability. Further, your continued employment as well as your participation in any benefit programs does not assure you of continuing employment with the Company. The Company also reserves the right to modify or amend the terms of your employment, compensation and benefit plans at any time for any reason. This policy of at-will employment is the entire agreement as to the duration of your employment and may only be modified in an express written agreement signed by the Chief Executive Officer of the Company.

6. Pre-employment Conditions.

a. **Confidentiality Agreement.** Your acceptance of this offer and commencement of employment with the Company is contingent upon the execution, and delivery to an officer of the Company, of the Company's Confidential Information and Invention Assignment Agreement, a copy of which is enclosed as **Attachment A** for your review and execution (the "Confidentiality Agreement"), prior to or on your Start Date.

b. **Right to Work.** For purposes of federal immigration law, you will be required to provide to the Company documentary evidence of your identity and eligibility for employment in the United States. Such documentation must be provided to us no later than your Start Date, or our employment relationship with you may be terminated.

c. **Verification of Information.** This offer of employment is also contingent upon the successful verification of the information you provided to the Company during your application process, as well as a background check performed by the Company to confirm your suitability for employment. By accepting this offer of employment, you warrant that all information provided by you is true and correct to the best of your knowledge, and you expressly release all parties from any and all liability for damages that may result from obtaining, furnishing, collecting or verifying such information, as well as from the use of or disclosure of such information by the Company or its agents. You have a right to review copies of any public records obtained by the Company in conducting this verification process unless you check the box below.

/s/ AL I hereby waive my right to receive any public records as described above.

7. No Conflicting Obligations. You understand and agree that by accepting this offer of employment, you represent to the Company that performance of your duties to the Company and the terms of this Agreement and the Confidentiality Agreement will not breach any other agreement (written

or oral) to which you are a party (including without limitation, current or past employers) and that you have not, and will not during the term of your employment with the Company, enter into any oral or written agreement which may result in a conflict of interest or may otherwise be in conflict with any of the provisions of this Agreement, the Confidentiality Agreement or the Company's policies. You are not to bring with you to the Company, or use or disclose to any person associated with the Company, any confidential or proprietary information belonging to any former employer or other person or entity with respect to which you owe an obligation of confidentiality under any agreement or otherwise. The Company does not need and will not use such information. Also, we expect you to abide by any obligations to refrain from soliciting any person employed by or otherwise associated with any former employer and suggest that you refrain from having any contact with such persons until such time as any non-solicitation obligation expires. To the extent that you are bound by any such obligations, you must inform the Company immediately prior to accepting this Agreement.

8. General Obligations . As an employee, you will be expected to adhere to the Company's standards of professionalism, loyalty, integrity, honesty, reliability and respect for all. Please note that the Company is an equal opportunity employer. The Company does not permit, and will not tolerate, the unlawful discrimination or harassment of any employees, applicants, consultants, or related third parties on the basis of sex, gender, gender identity, gender expression, sex stereotype, transgender, race, color, religion or religious creed, age, national origin or ancestry, marital status, military or protected veteran status, immigration status, mental or physical disability or medical condition, genetic information, sexual orientation, pregnancy, childbirth or related medical condition, or any other status protected by applicable law. Any questions regarding this EEO statement should be directed to Human Resources.

9. Termination Obligations .

a. You agree that all property, including, without limitation, all equipment, proprietary information, documents, books, records, reports, notes, contracts, lists, computer disks (and other computer-generated files and data), and copies thereof, created on any medium and furnished to, obtained by, or prepared by you in the course of or incident to your employment, belongs to the Company and shall be returned to the Company promptly upon any termination of your employment, or sooner if so requested by the Company.

b. Upon your termination of your employment with the Company for any reason, if applicable, you will resign in writing (or be deemed to have resigned) from all other offices and directorships then held with the Company or any affiliate of the Company, unless otherwise agreed with the Company.

c. Following the termination of your employment with the Company for any reason, you shall fully cooperate with the Company in all matters relating to the winding up of pending work on behalf of the Company and the orderly transfer of work to other employees of the Company. You shall also cooperate in the defense of any action brought by any third party against the Company. If necessary, the Company shall pay you for your time incurred to comply with this provision at a reasonable per diem or per hour rate as to be determined by the Company.

d. Following the termination of your employment with the Company for any reason, you agree that you will not at any time make any statements or comments (written or oral) to any third party or take any action disparaging the integrity or reputation of the Company or any of its subsidiaries,

employees, officers, directors, stockholders or affiliates. You also agree that you will not do or say anything that could disrupt the good morale of the employees of any of the companies listed above or harm their respective businesses or reputations of the companies and persons listed above.

10. Miscellaneous Terms .

a. Entire Agreement . This Agreement, together with its Attachment A (the Confidentiality Agreement), set forth the entire terms of your employment with the Company (other than the Equity Plan Documents) and supersede any prior representations or agreements, whether written or oral.

b. Governing Law . This Agreement will be governed by the laws of California, without regard to its conflict of laws provisions. This Agreement may not be modified or amended except by a written agreement, signed by the CEO (or his authorized representative) of the Company.

c. Counterparts . This Agreement may be executed in one or more counterparts, each of which shall be deemed an original but all of which shall together constitute one and the same instrument.

d. Severability . Nothing contained in this Agreement shall be construed as requiring the commission of any act contrary to law, and wherever there is any conflict between any provision of this Agreement and any present or future statute, law, ordinance or regulation contrary to which the parties have no legal right to contract, the latter shall prevail, but in such event, any provision of this Agreement thus affected shall be curtailed and limited only to the extent necessary to bring it within the requirements of the law. In the event that any part, article, paragraph or clause of this Agreement shall be held to be indefinite or invalid, the entire Agreement shall not fail on account thereof, and the balance of the Agreement shall continue in full force and effect.

e. Waiver . Failure or delay of either party to insist upon compliance with any provision hereof will not operate as, and is not to be construed as, a waiver or amendment of such provision or the right of the aggrieved party to insist upon compliance with such provision or to take remedial steps to recover damages or other relief for noncompliance. Any express waiver of any provision of this Agreement will not operate and is not to be construed as a waiver of any subsequent breach, whether occurring under similar or dissimilar circumstances.

f. Attorneys' Fees . The Company will pay directly or reimburse you for reasonable legal fees and costs incurred in connection with negotiating and reviewing this Offer Letter and any related documents or matters, with the Company's reimbursement not to exceed five thousand ($5,000).

We are all delighted to be able to extend you this offer and look forward to working with you. To indicate your acceptance of the Company's offer, please sign and date this Agreement in the space provided below and return it to me, along with a signed and dated original copy of the Confidentiality Agreement, prior to the expiration date specified in the opening paragraph of this Agreement.

Very truly yours,

PANDORA MEDIA, INC.

By: /s/ Roger Lynch

Name: Roger Lynch
Title: Chief Executive Officer

ACCEPTED AND AGREED:

I have read this offer and agree to accept employment with Company under the terms set forth in this Agreement.

Aimée Lapic

/s/ Aimée Lapic
Signature

November 22, 2017
Date

Attachment A

Confidential Information, Invention Assignment, and Arbitration Agreement

2100 FRANKLIN ST • 7 TH FLOOR• OAKLAND, CA 94612 | **T** 510.451.4100 | **F** 510.451.4286 | PANDORA.COM

COEX-
8.32

AMENDMENT NUMBER TWO
TO CREDIT AGREEMENT

THIS AMENDMENT NUMBER TWO TO CREDIT AGREEMENT (this " Amendment "), dated as of September 21, 2018, is entered into by and among **PANDORA MEDIA, INC.** , a Delaware corporation (" Pandora "), the Subsidiaries of Pandora identified on the signature pages hereof as "Borrowers" (together with Pandora, each, a " Borrower " and individually and collectively, jointly and severally, the " Borrowers "), the Subsidiaries of Pandora identified on the signature pages hereof as "Guarantors" (each, a " Guarantor " and individually and collectively, jointly and severally, the " Guarantors "), the Lenders identified on the signature pages hereof, and **WELLS FARGO BANK, NATIONAL ASSOCIATION** , a national banking association (" Wells Fargo "), as administrative agent for each member of the Lender Group and the Bank Product Providers (in such capacity, together with its successors and assigns in such capacity, " Agent "), and in light of the following:

W I T N E S S E T H

WHEREAS , Borrowers, the Lenders party thereto, Agent, and JPMorgan Chase Bank, N.A. (" JPM "), Morgan Stanley Senior Funding, Inc. (" MSSF "), and Wells Fargo, as joint lead arrangers and as joint bookrunners, are parties to that certain Credit Agreement, dated as of December 29, 2017 (as amended, restated, supplemented, or otherwise modified from time to time, the " Credit Agreement ");

WHEREAS , Borrowers have requested certain amendments to the Credit Agreement; and

WHEREAS , upon the terms and conditions set forth herein, Agent and the Required Lenders are willing to make certain amendments to the Credit Agreement.

NOW, THEREFORE , in consideration of the foregoing and the mutual covenants herein contained, and for other good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, the parties hereby agree as follows:

1. Defined Terms . All initially capitalized terms used herein (including the preamble and recitals hereof) without definition shall have the meanings ascribed thereto in the Credit Agreement (including Section 1.1 thereof).

2. Amendments to Credit Agreement . Subject to the satisfaction (or waiver in writing by Agent) of the conditions precedent set forth in Section 3 hereof, Section 1.1 of the Credit Agreement is hereby amended by amending and restating subclause (u) of the definition of " Permitted Indebtedness " in its entirety as follows:

(u) Permitted Convertible Notes; provided that (a) at the time of incurrence thereof and after giving effect thereto, (i) no Default or Event of Default shall have occurred and be continuing and (ii) Liquidity shall not be less than the greater of (x) 16.67% of the Maximum Revolver Amount and (y) $10,000,000 and (b) Administrative Borrower shall have delivered to Agent a certificate of a financial officer of Administrative Borrower certifying that (i) all the requirements set forth in this clause (u) have been satisfied with respect to such incurrence of Permitted Convertible Notes, (ii) based on the information then available to Administrative Borrower, Administrative Borrower in good faith expects that Liquidity will not be less than the greater of (x) 16.67% of the Maximum Revolver Amount and (y) $10,000,000 at any time during the six month period immediately following such incurrence, together with a calculation in support of the satisfaction of the requirement referred to in clause (a)(ii) above, and any Refinancing Indebtedness in respect thereof, and (iii) that the consent of the holders of the Series A Preferred Stock of Administrative

Borrower (x) is not required in connection with the issuance of such Permitted Convertible Notes or (y) to the issuance of such Permitted Convertible Notes has been obtained and is in full force and effect (and, in the case of this clause (y), attaching a copy of such written consent); provided further that the aggregate principal amount of Indebtedness permitted by this clause (u) may not exceed $600,000,000 less the aggregate principal amount of any outstanding 2020 Unsecured Convertible Notes at any time outstanding,

3. Conditions Precedent to Amendment . The satisfaction (or waiver in writing by Agent) of each of the following shall constitute conditions precedent to the effectiveness of the Amendment (the first date upon which all of such conditions are satisfied or waived in writing by Agent, the " Amendment Effective Date "):

(a) Agent shall have received this Amendment, duly executed by Agent, the Borrowers, the Guarantors, and Lenders constituting the Required Lenders, and the same shall be in full force and effect.

(b) After giving effect to this Amendment, the representations and warranties contained herein, in the Credit Agreement, and in the other Loan Documents, in each case shall be true and correct in all material respects (except that such materiality qualifier shall not be applicable to any representations and warranties that already are qualified or modified by materiality in the text thereof) on and as of the date hereof, as though made on and as of such date (except to the extent that such representations and warranties relate solely to an earlier date, in which case such representations and warranties shall continue to be true and correct in all material respects (except that such materiality qualifier shall not be applicable to any representations and warranties that already are qualified or modified by materiality in the text thereof) as of such earlier date).

(c) No Default or Event of Default shall have occurred and be continuing as of the Amendment Effective Date, nor shall either result from the consummation of the transactions contemplated herein.

(d) Borrowers shall pay to Agent and each Lender concurrently with the closing of the transactions contemplated by this Amendment, all fees, costs, expenses and taxes then payable pursuant to the Credit Agreement and Section 4 of this Amendment; provided that an invoice is provided to Borrowers not less than one Business Day prior to the closing of the transactions contemplated by this Amendment.

(e) All other documents and legal matters in connection with the transactions contemplated by this Amendment shall have been delivered, executed, or recorded and shall be in form and substance reasonably satisfactory to Agent.

4. Representations and Warranties . Each Loan Party hereby represents and warrants to Agent and each other member of the Lender Group as follows:

(a) It (i) is duly organized and existing and in good standing under the laws of the jurisdiction of its organization, (ii) is qualified to do business in any state where the failure to be so qualified could reasonably be expected to result in a Material Adverse Effect, and (iii) has all requisite power and authority to own and operate its properties, to carry on its business as now conducted and as proposed to be conducted, to enter into this Amendment and the other Loan Documents to which it is a party and to carry out the transactions contemplated hereby and thereby.

(b) The execution, delivery, and performance by it of this Amendment and the performance by it of each Loan Document to which it is or will be a party (i) have been duly authorized by

all necessary action, (ii) do not and will not (A) violate any material provision of federal, state or local law or regulation applicable to it or its Subsidiaries, the Governing Documents of it or its Subsidiaries, or any order, judgment, or decree of any court or other Governmental Authority binding on it or its Subsidiaries, (B) conflict with, result in a breach of, or constitute (with due notice or lapse of time or both) a default under any Material Contract of any Loan Party or its Subsidiaries, the Preferred Equity Documents, the Permitted Convertible Notes, or the Permitted Subordinated Notes, where any such conflict, breach or default could individually or in the aggregate reasonably be expected to have a Material Adverse Effect, (C) result in or require the creation or imposition of any Lien of any nature whatsoever upon any assets of any Loan Party, other than Permitted Liens, or (D) require any approval of any holder of Equity Interests of a Loan Party or any approval or consent of any Person under any Material Contract of any Loan Party, the Preferred Equity Documents, the Permitted Convertible Notes, or the Permitted Subordinated Notes, other than consents or approvals that have been obtained and that are still in force and effect and except, in the case of Material Contracts, the Preferred Equity Documents, the Permitted Convertible Notes, and the Permitted Subordinated Notes, for consents or approvals, the failure to obtain could not individually or in the aggregate reasonably be expected to cause a Material Adverse Effect.

(c) No registration with, consent, or approval of, or notice to, or other action with or by, any Governmental Authority is required in connection with the execution, delivery and performance by it of this Amendment or any other Loan Document to which it is or will be a party, other than registrations, consents, approvals, notices, or other actions that have been obtained and that are still in force and effect.

(d) This Amendment is, and each other Loan Document to which it is or will be a party, when executed and delivered by each Person that is a party thereto, will be the legally valid and binding obligation of such Person, enforceable against such Person in accordance with its respective terms, except as enforcement may be limited by equitable principles or by bankruptcy, insolvency, reorganization, moratorium or similar laws relating to or limiting creditors' rights generally.

(e) No injunction, writ, restraining order, or other order of any nature prohibiting, directly or indirectly, the consummation of the transactions contemplated herein has been issued and remains in force by any Governmental Authority against any Loan Party, Agent, any member of the Lender Group, or any Bank Product Provider.

(f) No Default or Event of Default has occurred and is continuing as of the date of the effectiveness of this Amendment, and no condition exists which constitutes a Default or an Event of Default.

(g) The representations and warranties set forth in this Amendment, the Credit Agreement, as amended by this Amendment and after giving effect to this Amendment, and the other Loan Documents to which it is a party are true and correct in all material respects (except that such materiality qualifier shall not be applicable to any representations and warranties that already are qualified or modified by materiality in the text thereof) on and as of the date hereof, as though made on and as of such date (except to the extent that such representations and warranties relate solely to an earlier date, in which case such representations and warranties shall continue to be true and correct in all material respects (except that such materiality qualifier shall not be applicable to any representations and warranties that already are qualified or modified by materiality in the text thereof) as of such earlier date).

(h) This Amendment has been entered into without force or duress, of the free will of each Loan Party, and the decision of each Loan Party to enter into this Amendment is a fully informed decision and such Person is aware of all legal and other ramifications of each decision.

(i) It has read and understands this Amendment, has consulted with and been represented by independent legal counsel of its own choosing in negotiations for and the preparation of this Amendment, has read this Amendment in full and final form, and has been advised by its counsel of its rights and obligations hereunder.

5. Payment of Costs and Fees . Borrowers shall pay to Agent and each Lender all Lender Group Expenses (including, without limitation, the reasonable fees and expenses of any attorneys retained by Agent or any Lender) in connection with the preparation, negotiation, execution and delivery of this Amendment and any documents and instruments relating hereto.

6. CHOICE OF LAW AND VENUE; JURY TRIAL WAIVER; JUDICIAL REFERENCE PROVISION . THIS AMENDMENT SHALL BE SUBJECT TO THE PROVISIONS REGARDING CHOICE OF LAW AND VENUE, JURY TRIAL WAIVER AND JUDICIAL REFERENCE PROVISION SET FORTH IN SECTION 12 OF THE CREDIT AGREEMENT, AND SUCH PROVISIONS ARE INCORPORATED HEREIN BY THIS REFERENCE, *MUTATIS MUTANDIS* .

7. Amendments . This Amendment cannot be altered, amended, changed or modified in any respect except in accordance with Section 14.1 of the Credit Agreement.

8. Counterpart Execution . This Amendment may be executed in any number of counterparts and by different parties on separate counterparts, each of which, when executed and delivered, shall be deemed to be an original, and all of which, when taken together, shall constitute but one and the same Amendment. Delivery of an executed counterpart of this Amendment by telefacsimile or other electronic method of transmission shall be equally as effective as delivery of an original executed counterpart of this Amendment. Any party delivering an executed counterpart of this Amendment by telefacsimile or other electronic method of transmission also shall deliver an original executed counterpart of this Amendment, but the failure to deliver an original executed counterpart shall not affect the validity, enforceability, and binding effect of this Amendment.

9. Effect on Loan Documents .

(a) The Credit Agreement, as amended hereby, and each of the other Loan Documents shall be and remain in full force and effect in accordance with their respective terms and hereby are ratified and confirmed in all respects. The execution, delivery, and performance of this Amendment shall not operate, except as expressly set forth herein, as a modification or waiver of any right, power, or remedy of Agent or any Lender under the Credit Agreement or any other Loan Document. Except for the amendments to the Credit Agreement expressly set forth herein, the Credit Agreement and the other Loan Documents shall remain unchanged and in full force and effect. The waivers, consents and modifications set forth herein are limited to the specifics hereof (including facts or occurrences on which the same are based), shall not apply with respect to any facts or occurrences other than those on which the same are based, shall neither excuse any future non-compliance with the Loan Documents nor operate as a waiver of any Default or Event of Default, shall not operate as a consent to any further waiver, consent or amendment or other matter under the Loan Documents, and shall not be construed as an indication that any future waiver or amendment of covenants or any other provision of the Credit Agreement will be agreed to, it being understood that the granting or denying of any waiver or amendment which may hereafter be requested by Borrowers remains in the sole and absolute discretion of Agent and Lenders. To the extent that any terms or provisions of this Amendment conflict with those of the Credit Agreement or the other Loan Documents, the terms and provisions of this Amendment shall control.

(b) Upon and after the effectiveness of this Amendment, each reference in the Credit Agreement to "this Agreement", "hereunder", "herein", "hereof" or words of like import referring to the Credit Agreement, and each reference in the other Loan Documents to "the Credit Agreement", "thereunder", "therein", "thereof" or words of like import referring to the Credit Agreement, shall mean and be a reference to the Credit Agreement as modified and amended hereby.

(c) To the extent that any of the terms and conditions in any of the Loan Documents shall contradict or be in conflict with any of the terms or conditions of the Credit Agreement, after giving effect to this Amendment, such terms and conditions are hereby deemed modified or amended accordingly to reflect the terms and conditions of the Credit Agreement as modified or amended hereby.

(d) This Amendment is a Loan Document.

(e) This Amendment shall be construed in accordance with the rules of construction set forth in Section 1.4 of the Credit Agreement, and such provisions are incorporated herein by this reference, *mutatis mutandis* .

10. Entire Agreement . This Amendment, and the terms and provisions hereof, the Credit Agreement and the other Loan Documents constitute the entire understanding and agreement between the parties hereto with respect to the subject matter hereof and supersede any and all prior or contemporaneous amendments or understandings with respect to the subject matter hereof, whether express or implied, oral or written.

11. Integration . This Amendment, together with the other Loan Documents, incorporates all negotiations of the parties hereto with respect to the subject matter hereof and is the final expression and agreement of the parties hereto with respect to the subject matter hereof.

12. Reaffirmation of Obligations . Each Loan Party hereby (a) acknowledges and reaffirms its obligations owing to Agent, each member of the Lender Group, and the Bank Product Providers under each Loan Document to which it is a party, and (b) agrees that each of the Loan Documents to which it is a party is and shall remain in full force and effect. Each Loan Party hereby (i) further ratifies and reaffirms the validity and enforceability of all of the Liens and security interests heretofore granted, pursuant to and in connection with the Guaranty and Security Agreement or any other Loan Document to Agent, on behalf and for the benefit of each member of the Lender Group and each Bank Product Provider, as collateral security for the obligations under the Loan Documents in accordance with their respective terms, and (ii) acknowledges that all of such Liens and security interests, and all Collateral heretofore pledged as security for such obligations, continue to be and remain collateral for such obligations from and after the date hereof (including, without limitation, from after giving effect to this Amendment).

13. Ratification . Each Loan Party hereby restates, ratifies and reaffirms each and every term and condition set forth in the Credit Agreement and the Loan Documents effective as of the date hereof and as modified hereby.

14. Severability . In case any provision in this Amendment shall be invalid, illegal or unenforceable, such provision shall be severable from the remainder of this Amendment and the validity, legality and enforceability of the remaining provisions shall not in any way be affected or impaired thereby.

[Signature pages follow]

IN WITNESS WHEREOF, the parties have entered into this Amendment as of the date first above written.

BORROWERS:

PANDORA MEDIA, INC.,
a Delaware corporation

By: /s/ Naveen Chopra
Name: Naveen Chopra
Title: Chief Financial Officer

PANDORA MEDIA CALIFORNIA, LLC,
a California limited liability company

By: Pandora Media, Inc.
Its: Sole Member

By: /s/ Naveen Chopra
Name: Naveen Chopra
Title: Chief Financial Officer

GUARANTOR:

ADSWIZZ, INC. , a Delaware corporation

By: Pandora Media, Inc.
Its: Sole Shareholder

By: /s/ Naveen Chopra
Name: Naveen Chopra
Title: Chief Financial Officer

WELLS FARGO BANK, NATIONAL ASSOCIATION ,
a national banking association, as Agent and as a Lender

By: /s/ David Klages
Name: David Klages
Its Authorized Signatory

MORGAN STANLEY SENIOR FUNDING, INC.,
as a Lender

By: /s/ Christopher Winthrop
Name: Christopher Winthrop
Title: Vice President

Signature Page to Amendment Number Two to Credit Agreement

COEX-
8.32

JP MORGAN CHASE BANK, N.A.,
as a Lender

By: /s/ Bruce S. Borden
Name: Bruce S. Borden
Title: Executive Director

Signature Page to Amendment Number Two to Credit Agreement

COEX-
8.32

MUFG UNION BANK, N.A.,
as a Lender

By: /s/ Nadia Mitevska
Name: Nadia Mitevska
Title: Director

Signature Page to Amendment Number Two to Credit Agreement

COEX-
8.32

Exhibit 31.01

Certification of Principal Executive Officer
Pursuant to Rule 13a-14(a)/15d-14(a), as Adopted Pursuant to Section 302 of the Sarbanes-Oxley Act of 2002

I, Roger Lynch, certify that:

1. I have reviewed this Quarterly Report on Form 10-Q of Pandora Media, Inc.;

2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;

3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this report;

4. The registrant's other certifying officer(s) and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the registrant and have:

(a) Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;

(b) Designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;

(c) Evaluated the effectiveness of the registrant's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report, based on such evaluation; and

(d) Disclosed in this report any change in the registrant's internal control over financial reporting that occurred during the registrant's most recent fiscal quarter (the registrant's fourth fiscal quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, the registrant's internal control over financial reporting; and

5. The registrant's other certifying officer(s) and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant's auditors and the audit committee of the registrant's board of directors (or persons performing the equivalent functions):

(a) All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant's ability to record, process, summarize and report financial information; and

(b) Any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal control over financial reporting.

November 5, 2018

/s/ Roger Lynch

Name: Roger Lynch
Title: *Chief Executive Officer (Principal Executive Officer)*

COEX-
8.32

Exhibit 31.02

Certification of Principal Financial Officer
Pursuant to Rule 13a-14(a)/15d-14(a), as Adopted Pursuant to Section 302 of the Sarbanes-Oxley Act of 2002

I, Naveen Chopra, certify that:

1. I have reviewed this Quarterly Report on Form 10-Q of Pandora Media, Inc.;

2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;

3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this report;

4. The registrant's other certifying officer(s) and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the registrant and have:

(a) Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;

(b) Designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;

(c) Evaluated the effectiveness of the registrant's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report, based on such evaluation; and

(d) Disclosed in this report any change in the registrant's internal control over financial reporting that occurred during the registrant's most recent fiscal quarter (the registrant's fourth fiscal quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, the registrant's internal control over financial reporting; and

5. The registrant's other certifying officer(s) and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant's auditors and the audit committee of the registrant's board of directors (or persons performing the equivalent functions):

(a) All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant's ability to record, process, summarize and report financial information; and

(b) Any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal control over financial reporting.

November 5, 2018

/s/ Naveen Chopra

Name: Naveen Chopra
Title: *Chief Financial Officer (Principal Financial Officer)*

COEX-
8.32

Exhibit 32.01

CERTIFICATION OF PRINCIPAL EXECUTIVE OFFICER AND PRINCIPAL FINANCIAL OFFICER PURSUANT TO 18 U.S.C. SECTION 1350, AS ADOPTED PURSUANT TO SECTION 906 OF SARBANES-OXLEY ACT OF 2002

The certification set forth below is being submitted in connection with this Quarterly Report on Form 10-Q for the quarter ended September 30, 2018 (the "Report") for the purpose of complying with Rule 13a-14(b) or Rule 15d-14(b) of the Securities Exchange Act of 1934 (the "Exchange Act") and Section 1350 of Chapter 63 of Title 18 of the United States Code.

Each of the undersigned certifies that, to his knowledge:

1. the Report fully complies with the requirements of Section 13(a) or 15(d) of the Exchange Act; and

2. the information contained in the Report fairly presents, in all material respects, the financial condition and results of operations of Pandora Media, Inc.

November 5, 2018

/s/ Roger Lynch

Name: Roger Lynch

Title: *Chief Executive Officer (Principal Executive Officer)*

/s/ Naveen Chopra

Name: Naveen Chopra

Title: *Chief Financial Officer (Principal Financial Officer)*

This certification accompanying the Report is not deemed filed with the Securities and Exchange Commission for purposes of Section 18 of the Securities Exchange Act of 1934, as amended, or otherwise subject to the liabilities such Section, and is not to be incorporated by reference into any filing of the Company under the Securities Act of 1933, as amended, or the Securities Exchange Act of 1934, as amended (whether made before, on or after the date of the Report), irrespective of any general incorporation language contained in such filing.

COEX-8.32

UNITED STATES
SECURITIES AND EXCHANGE COMMISSION
WASHINGTON, D.C. 20549

FORM 10-Q

☑ **QUARTERLY REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934**

FOR THE QUARTERLY PERIOD ENDED June 30, 2019
OR

☐ **TRANSITION REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934**

FOR THE TRANSITION PERIOD FROM _____ TO _____
COMMISSION FILE NUMBER 001-34295

SIRIUS XM HOLDINGS INC.

(Exact name of registrant as specified in its charter)

Delaware	**38-3916511**
(State or other jurisdiction of incorporation or organization)	*(I.R.S. Employer Identification No.)*

1290 Avenue of the Americas , 11th Floor , New York , NY
(Address of Principal Executive Offices)
10104
(Zip Code)

Registrant's telephone number, including area code: (212) 584-5100
Former name, former address and former fiscal year, if changed since last report: Not Applicable

Title of each class	Trading Symbol(s)	Name of exchange on which registered
Common stock, $0.001 par value	**SIRI**	**NASDAQ Global Select Market**

Indicate by check mark whether the registrant (1) has filed all reports required to be filed by Section 13 or 15(d) of the Securities Exchange Act of 1934 during the preceding 12 months (or for such shorter period that the registrant was required to file such reports) and (2) has been subject to such filing requirements for the past 90 days. Yes ☑ No ☐

Indicate by check mark whether the registrant has submitted electronically every Interactive Data File required to be submitted pursuant to Rule 405 of Regulation S-T during the preceding 12 months (or for such shorter period that the registrant was required to submit such files). Yes ☑ No ☐

Indicate by check mark whether the registrant is a large accelerated filer, an accelerated filer, a non-accelerated filer, or a smaller reporting company. See the definitions of "large accelerated filer," "accelerated filer", "smaller reporting company" and "emerging growth company" in Rule 12b-2 of the Exchange Act.:

Large accelerated filer	☑	Accelerated filer	☐	Non-accelerated filer	☐
Smaller reporting company	☐	Emerging growth company	☐		

If an emerging growth company, indicate by check mark if the registrant has elected not to use the extended transition period for complying with any new or revised financial accounting standards provided pursuant to Section 13(a) of the Exchange Act. ☐

Indicate by check mark whether the registrant is a shell company (as defined in Rule 12b-2 of the Act). Yes ☐ No ☑

Indicate the number of shares outstanding of each of the issuer's classes of common stock, as of the latest practicable date.

(Class)	(Outstanding as of July 26, 2019)	
Common stock, $0.001 PAR VALUE	**4,449,815,890**	**shares**

SIRIUS XM HOLDINGS INC. AND SUBSIDIARIES
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SIRIUS XM HOLDINGS INC. AND SUBSIDIARIES
CONSOLIDATED STATEMENTS OF COMPREHENSIVE INCOME
(UNAUDITED)

	For the Three Months Ended June 30,		For the Six Months Ended June 30,	
(in millions, except per share data)	**2019**	**2018**	**2019**	**2018**
Revenue:				
Subscriber revenue	$ 1,537	$ 1,304	$ 2,995	$ 2,562
Advertising revenue	358	47	567	89
Equipment revenue	41	37	82	72
Other revenue	41	44	77	84
Total revenue	1,977	1,432	3,721	2,807
Operating expenses:				
Cost of services:				
Revenue share and royalties	600	404	1,092	714
Programming and content	116	106	222	207
Customer service and billing	120	95	233	189
Transmission	40	24	71	46
Cost of equipment	6	8	12	15
Subscriber acquisition costs	104	120	212	243
Sales and marketing	232	119	415	226
Engineering, design and development	74	27	128	58
General and administrative	120	92	255	177
Depreciation and amortization	119	75	226	147
Acquisition and other related costs	7	—	83	—
Total operating expenses	1,538	1,070	2,949	2,022
Income from operations	439	362	772	785
Other (expense) income:				
Interest expense	(97)	(86)	(187)	(176)
Loss on extinguishment of debt	—	—	(1)	—
Other (expense) income	(3)	88	(2)	124
Total other (expense) income	(100)	2	(190)	(52)
Income before income taxes	339	364	582	733
Income tax expense	(76)	(71)	(157)	(151)
Net income	$ 263	$ 293	$ 425	$ 582
Foreign currency translation adjustment, net of tax	7	(9)	14	(18)
Total comprehensive income	$ 270	$ 284	$ 439	$ 564
Net income per common share:				
Basic	$ 0.06	$ 0.07	$ 0.09	$ 0.13
Diluted	$ 0.06	$ 0.06	$ 0.09	$ 0.13
Weighted average common shares outstanding:				
Basic	4,568	4,482	4,569	4,487
Diluted	4,675	4,589	4,677	4,589
Dividends declared per common share	$ 0.0121	$ 0.0110	$ 0.0242	$ 0.0220

See accompanying notes to the unaudited consolidated financial statements.

SIRIUS XM HOLDINGS INC. AND SUBSIDIARIES
CONSOLIDATED BALANCE SHEETS

(in millions, except per share data)	June 30, 2019	December 31, 2018
ASSETS	**(unaudited)**	
Current assets:		
Cash and cash equivalents	$ 215	$ 54
Receivables, net	628	233
Inventory, net	17	22
Related party current assets	11	11
Prepaid expenses and other current assets	211	158
Total current assets	1,082	478
Property and equipment, net	1,583	1,513
Intangible assets, net	3,543	2,501
Goodwill	3,852	2,290
Related party long-term assets	456	960
Deferred tax assets	218	293
Operating lease right-of-use assets	442	—
Other long-term assets	140	138
Total assets	$ 11,316	$ 8,173
LIABILITIES AND STOCKHOLDERS' EQUITY (DEFICIT)		
Current liabilities:		
Accounts payable and accrued expenses	$ 1,102	$ 736
Accrued interest	134	128
Current portion of deferred revenue	1,974	1,932
Current maturities of debt	3	3
Operating lease current liabilities	47	—
Related party current liabilities	4	4
Total current liabilities	3,264	2,803
Long-term deferred revenue	140	149
Long-term debt	7,843	6,885
Related party long-term liabilities	2	4
Deferred tax liabilities	48	47
Operating lease liabilities	418	—
Other long-term liabilities	90	102
Total liabilities	11,805	9,990
Commitments and contingencies (Note 15)		
Stockholders' equity (deficit):		
Common stock, par value $0.001 per share; 9,000 shares authorized; 4,497 and 4,346 shares issued; 4,492 and 4,346 outstanding at June 30, 2019 and December 31, 2018, respectively	4	4
Accumulated other comprehensive income (loss), net of tax	8	(6)
Additional paid-in capital	1,159	242
Treasury stock, at cost; 5 and 0 shares of common stock at June 30, 2019 and December 31, 2018, respectively	(28)	—
Accumulated deficit	(1,632)	(2,057)
Total stockholders' equity (deficit)	(489)	(1,817)
Total liabilities and stockholders' equity (deficit)	$ 11,316	$ 8,173

See accompanying notes to the unaudited consolidated financial statements.

SIRIUS XM HOLDINGS INC. AND SUBSIDIARIES
CONSOLIDATED STATEMENT OF STOCKHOLDERS' EQUITY (DEFICIT)
(UNAUDITED)

For the Six Months Ended June 30, 2019

(in millions)	Common Stock		Accumulated Other Comprehensive Income (Loss)	Additional Paid-in Capital	Treasury Stock		Accumulated Deficit	Total Stockholders' Equity (Deficit)
	Shares	Amount			Shares	Amount		
Balance at December 31, 2018	4,346	$ 4	$ (6)	$ 242	—	$ —	$ (2,057)	$ (1,817)
Comprehensive income, net of tax	—	—	14	—	—	—	425	439
Share-based payment expense	—	—	—	134	—	—	—	134
Exercise of options and vesting of restricted stock units	13	—	—	—	—	—	—	—
Withholding taxes on net share settlement of stock-based compensation	—	—	—	(47)	—	—	—	(47)
Cash dividends paid on common stock, $0.0242 per share	—	—	—	(113)	—	—	—	(113)
Issuance of common stock as part of Pandora Acquisition	392	1	—	2,354	—	—	—	2,355
Equity component of convertible note	—	—	—	62	—	—	—	62
Common stock repurchased	—	—	—	—	259	(1,502)	—	(1,502)
Common stock retired	(254)	(1)	—	(1,473)	(254)	1,474	—	—
Balance at June 30, 2019	4,497	$ 4	$ 8	$ 1,159	5	$ (28)	$ (1,632)	$ (489)

See accompanying notes to the unaudited consolidated financial statements.

SIRIUS XM HOLDINGS INC. AND SUBSIDIARIES
CONSOLIDATED STATEMENT OF STOCKHOLDERS' EQUITY (DEFICIT)
(UNAUDITED)

For the Three Months Ended June 30, 2019

(in millions)	Common Stock		Accumulated Other Comprehensive Income (Loss)	Additional Paid-in Capital	Treasury Stock		Accumulated Deficit	Total Stockholders' Equity (Deficit)
	Shares	Amount			Shares	Amount		
Balance at March 31, 2019	4,650	$ 5	$ 1	$ 2,071	5	$ (28)	$ (1,895)	$ 154
Comprehensive income, net of tax	—	—	7	—	—	—	263	270
Share-based payment expense	—	—	—	60	—	—	—	60
Exercise of options and vesting of restricted stock units	5	—	—	—	—	—	—	—
Withholding taxes on net share settlement of stock-based compensation	—	—	—	(13)	—	—	—	(13)
Cash dividends paid on common stock, $0.0121 per share	—	—	—	(56)	—	—	—	(56)
Equity component of convertible note	—	—	—	(6)	—	—	—	(6)
Common stock repurchased	—	—	—	—	158	(898)	—	(898)
Common stock retired	(158)	(1)	—	(897)	(158)	898	—	—
Balance at June 30, 2019	4,497	$ 4	$ 8	$ 1,159	5	$ (28)	$ (1,632)	$ (489)

See accompanying notes to the unaudited consolidated financial statements.

SIRIUS XM HOLDINGS INC. AND SUBSIDIARIES
CONSOLIDATED STATEMENT OF STOCKHOLDERS' EQUITY (DEFICIT)
(UNAUDITED)

For the Six Months Ended June 30, 2018

(in millions)	Common Stock		Accumulated Other Comprehensive Income (Loss)	Additional Paid-in Capital	Treasury Stock		Accumulated Deficit	Total Stockholders' Equity (Deficit)
	Shares	Amount			Shares	Amount		
Balance at December 31, 2017	4,531	$ 4	$ 19	$ 1,713	3	$ (17)	$ (3,243)	$ (1,524)
Cumulative effect of change in accounting principles	—	—	4	—	—	—	14	18
Comprehensive income, net of tax	—	—	(18)	—	—	—	582	564
Share-based payment expense	—	—	—	58	—	—	—	58
Exercise of options and vesting of restricted stock units	14	—	—	—	—	—	—	—
Withholding taxes on net share settlement of stock-based compensation	—	—	—	(71)	—	—	—	(71)
Cash dividends paid on common stock, $0.0220 per share	—	—	—	(99)	—	—	—	(99)
Common stock repurchased	—	—	—	—	56	(317)	—	(317)
Common stock retired	(59)	—	—	(334)	(59)	334	—	—
Balance at June 30, 2018	4,486	$ 4	$ 5	$ 1,267	—	$ —	$ (2,647)	$ (1,371)

See accompanying notes to the unaudited consolidated financial statements.

SIRIUS XM HOLDINGS INC. AND SUBSIDIARIES
CONSOLIDATED STATEMENT OF STOCKHOLDERS' EQUITY (DEFICIT)
(UNAUDITED)

For the Three Months Ended June 30, 2018

(in millions)	Common Stock		Accumulated Other Comprehensive Income (Loss)	Additional Paid-in Capital	Treasury Stock		Accumulated Deficit	Total Stockholders' Equity (Deficit)
	Shares	Amount			Shares	Amount		
Balance at March 31, 2018	4,481	$ 4	$ 14	$ 1,360	—	$ (3)	$ (2,940)	$ (1,565)
Cumulative effect of change in accounting principles	—	—	—	—	—	—	—	—
Comprehensive income, net of tax	—	—	(9)	—	—	—	293	284
Share-based payment expense	—	—	—	29	—	—	—	29
Exercise of options and vesting of restricted stock units	9	—	—	—	—	—	—	—
Withholding taxes on net share settlement of stock-based compensation	—	—	—	(47)	—	—	—	(47)
Cash dividends paid on common stock, $0.0110 per share	—	—	—	(50)	—	—	—	(50)
Common stock repurchased	—	—	—	—	4	(22)	—	(22)
Common stock retired	(4)	—	—	(25)	(4)	25	—	—
Balance at June 30, 2018	4,486	$ 4	$ 5	$ 1,267	—	$ —	$ (2,647)	$ (1,371)

See accompanying notes to the unaudited consolidated financial statements.

SIRIUS XM HOLDINGS INC. AND SUBSIDIARIES
CONSOLIDATED STATEMENTS OF CASH FLOWS
(UNAUDITED)

(in millions)	For the Six Months Ended June 30, 2019	2018
Cash flows from operating activities:		
Net income	$ 425	$ 582
Adjustments to reconcile net income to net cash provided by operating activities:		
Depreciation and amortization	226	147
Non-cash interest expense, net of amortization of premium	7	5
Provision for doubtful accounts	27	24
Amortization of deferred income related to equity method investment	(1)	(1)
Loss on extinguishment of debt	1	—
Loss on unconsolidated entity investments, net	10	—
Gain on fair value instrument	—	(118)
Dividend received from unconsolidated entity investment	1	1
Share-based payment expense	127	70
Deferred income taxes	146	134
Changes in operating assets and liabilities:		
Receivables	(69)	(29)
Inventory	6	1
Related party, net	(1)	(2)
Prepaid expenses and other current assets	(20)	—
Other long-term assets	4	8
Operating lease right-of-use assets	2	—
Accounts payable and accrued expenses	36	88
Accrued interest	6	(9)
Deferred revenue	(4)	85
Operating lease liabilities	7	—
Other long-term liabilities	5	8
Net cash provided by operating activities	941	994
Cash flows from investing activities:		
Additions to property and equipment	(160)	(174)
Purchases of other investments	(7)	(7)
Cash received from Pandora Acquisition	313	—
Sale of short-term investments	72	—
Investments in related parties and other equity investees	(9)	(6)
Repayment from related party	—	3
Net cash provided by (used in) investing activities	209	(184)
Cash flows from financing activities:		
Proceeds from exercise of stock options	1	—
Taxes paid from net share settlements for stock-based compensation	(47)	(71)
Revolving credit facility, net of deferred financing costs	(439)	(303)
Proceeds from long-term borrowings, net of costs	1,236	—
Proceeds from sale of capped call security	3	—
Principal payments of long-term borrowings	(156)	(8)
Common stock repurchased and retired	(1,474)	(334)
Dividends paid	(113)	(99)
Net cash used in financing activities	(989)	(815)
Net decrease in cash, cash equivalents and restricted cash	161	(5)
Cash, cash equivalents and restricted cash at beginning of period	65	79
Cash, cash equivalents and restricted cash at end of period [1]	$ 226	$ 74

See accompanying notes to the unaudited consolidated financial statements.

SIRIUS XM HOLDINGS INC. AND SUBSIDIARIES
CONSOLIDATED STATEMENTS OF CASH FLOWS - Continued
(UNAUDITED)

(in millions)	For the Six Months Ended June 30, 2019	2018
Supplemental Disclosure of Cash and Non-Cash Flow Information		
Cash paid during the period for:		
Interest, net of amounts capitalized	$ 171	$ 179
Income taxes paid	$ 5	$ 6
Non-cash investing and financing activities:		
Treasury stock not yet settled	$ (28)	$ 17
Fair value of shares issued related to acquisition of a business	$ 2,355	$ —
Accumulated other comprehensive income (loss), net of tax	$ 14	$ (18)

(1) The following table reconciles cash, cash equivalents and restricted cash per the statement of cash flows to the balance sheet. The restricted cash balances are primarily due to letters of credit which have been issued to the landlords of leased office space. The terms of the letters of credit primarily extend beyond one year.

(in millions)	June 30, 2019	December 31, 2018	June 30, 2018	December 31, 2017
Cash and cash equivalents	$ 215	$ 54	$ 63	$ 69
Restricted cash included in Other long-term assets	11	11	11	10
Total cash, cash equivalents and restricted cash at end of period	$ 226	$ 65	$ 74	$ 79

See accompanying notes to the unaudited consolidated financial statements.

SIRIUS XM HOLDINGS INC. AND SUBSIDIARIES
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS
(UNAUDITED)
(Dollars and shares in millions, except per share amounts)

(1) Business & Basis of Presentation

This Quarterly Report on Form 10-Q presents information for Sirius XM Holdings Inc. (“Holdings”). The terms “Holdings,” “we,” “us,” “our,” and “our company” as used herein, and unless otherwise stated or indicated by context, refer to Sirius XM Holdings Inc. and its subsidiaries. “Sirius XM” refers to our wholly owned subsidiary Sirius XM Radio Inc. and its subsidiaries. “Pandora” refers to Sirius XM's wholly owned subsidiary Pandora Media, LLC (the successor to Pandora Media, Inc.) and its subsidiaries. Holdings has no operations independent of Sirius XM and Pandora.

Business

We operate two complementary audio entertainment businesses - our Sirius XM business and our Pandora business.

Sirius XM

Our Sirius XM business features music, sports, entertainment, comedy, talk, news, traffic and weather channels, as well as infotainment services, in the United States on a subscription fee basis. The Sirius XM service is distributed through our two proprietary satellite radio systems and through the internet via applications for mobile devices, home devices and other consumer electronic equipment. Satellite radios are primarily distributed through automakers, retailers and our website. Our Sirius XM service is also available through our user interface, which we call “360L,” that combines our satellite and streaming services into a single, cohesive in-vehicle entertainment experience. The primary source of revenue from our Sirius XM business is generated from subscription fees, with most of our customers subscribing to monthly, quarterly, semi-annual or annual plans. We also derive revenue from advertising on select non-music channels, direct sales of our satellite radios and accessories, and other ancillary services. As of June 30, 2019 , our Sirius XM business had approximately 34.3 million subscribers.

In addition to our audio entertainment businesses, we provide connected vehicle services to several automakers and directly to consumers through aftermarket devices. These services are designed to enhance the safety, security and driving experience of consumers. We also offer a suite of data services that includes graphical weather, fuel prices, sports schedules and scores and movie listings, a traffic information service that includes information as to road closings, traffic flow and incident data to consumers with compatible in-vehicle navigation systems, and real-time weather services designed for improving situational awareness in vehicles, boats and planes.

Sirius XM also holds a 70% equity interest and 33% voting interest in Sirius XM Canada Holdings Inc. ("Sirius XM Canada"). Sirius XM Canada's subscribers are not included in our subscriber count or subscriber-based operating metrics.

Pandora

Our Pandora business operates a music, comedy and podcast streaming discovery platform, offering a personalized experience for each listener wherever and whenever they want to listen, whether through mobile devices, car speakers or connected devices in the home. Pandora enables listeners to create personalized stations and playlists, discover new content, hear artist- and expert-curated playlists, podcasts and select Sirius XM content as well as search and play songs and albums on-demand. Pandora is available as an ad-supported radio service, a radio subscription service, called Pandora Plus, and an on-demand subscription service, called Pandora Premium. As of June 30, 2019 , Pandora had approximately 7.0 million subscribers. The majority of revenue from our Pandora business is generated from advertising on our Pandora ad-supported radio service. In addition, as a result of the May 2018 acquisition of AdsWizz Inc. by Pandora, we provide a comprehensive digital audio advertising technology platform, which connects audio publishers and advertisers. As of June 30, 2019 , our Pandora business had approximately 64.9 million active users.

Liberty Media

As of June 30, 2019 , Liberty Media Corporation (“Liberty Media”) beneficially owned, directly and indirectly, approximately 70% of the outstanding shares of our common stock. As a result, we are a “controlled company” for the purposes of the NASDAQ corporate governance requirements.

SIRIUS XM HOLDINGS INC. AND SUBSIDIARIES
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS - Continued
(UNAUDITED)
(Dollars and shares in millions, except per share amounts)

Basis of Presentation

The accompanying unaudited consolidated financial statements of Holdings have been prepared in accordance with U.S. generally accepted accounting principles ("GAAP"). All significant intercompany transactions have been eliminated in consolidation. Certain numbers in our prior period consolidated financial statements and footnotes have been reclassified or consolidated to conform to our current period presentation. Music Royalty Fee revenue was reported as Other revenue in our June 30, 2018 Quarterly Report on Form 10-Q. This revenue was reclassified to Subscriber revenue to conform with the current period presentation.

	For the Three Months Ended June 30, 2018			For the Six Months Ended June 30, 2018		
	As Reported	Reclassification	Current Report	As Reported	Reclassification	Current Report
Subscriber revenue	$ 1,139	$ 165	$ 1,304	$ 2,256	$ 306	$ 2,562
Advertising revenue	47	—	47	89	—	89
Equipment revenue	37	—	37	72	—	72
Other revenue	209	(165)	44	390	(306)	84
Total revenue	$ 1,432	$ —	$ 1,432	$ 2,807	$ —	$ 2,807

In the opinion of our management, all normal recurring adjustments necessary for a fair presentation of our unaudited consolidated financial statements as of June 30, 2019 and for the three and six months ended June 30, 2019 and 2018 have been made.

Interim results are not necessarily indicative of the results that may be expected for a full year. This Quarterly Report on Form 10-Q should be read together with our Annual Report on Form 10-K for the year ended December 31, 2018, which was filed with the SEC on January 30, 2019.

Public companies are required to disclose certain information about their reportable operating segments. Operating segments are defined as significant components of an enterprise for which separate financial information is available and is evaluated on a regular basis by the chief operating decision maker in deciding how to allocate resources to an individual segment and in assessing performance of the segment. We have determined that we have two reportable segments as our chief operating decision maker, our Chief Executive Officer, assesses performance and allocates resources based on the financial results of these segments. Refer to Note 16 for information related to our segments.

We have evaluated events subsequent to the balance sheet date and prior to the filing of this Quarterly Report on Form 10-Q for the three and six months ended June 30, 2019 and have determined that no events have occurred that would require adjustment to our unaudited consolidated financial statements. For a discussion of subsequent events that do not require adjustment to our unaudited consolidated financial statements refer to Note 18.

Use of Estimates

The preparation of financial statements in conformity with GAAP requires management to make estimates and assumptions that affect the amounts reported in the financial statements and footnotes. Estimates, by their nature, are based on judgment and available information. Actual results could differ materially from those estimates. Significant estimates inherent in the preparation of the accompanying unaudited consolidated financial statements include asset impairment, depreciable lives of our satellites, share-based payment expense, income taxes, and the purchase accounting related to the Pandora Acquisition (defined below).

(2) Acquisition

On February 1, 2019, through a series of transactions, Pandora Media, Inc., became an indirect wholly owned subsidiary of Sirius XM and continues to operate as Pandora Media, LLC (the "Pandora Acquisition"). In connection with the Pandora Acquisition, we purchased all of the outstanding shares of the capital stock of Pandora for $2,355 by converting each outstanding share of Pandora common stock into 1.44 shares of our common stock and we also canceled our preferred stock investment in Pandora for $524 for total consideration of $2,879 . Net cash acquired was $313 . As part of the Pandora

SIRIUS XM HOLDINGS INC. AND SUBSIDIARIES
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS - Continued
(UNAUDITED)
(Dollars and shares in millions, except per share amounts)

Acquisition, Holdings unconditionally guaranteed all of the payment obligations of Pandora under its outstanding 1.75% convertible senior notes due 2020 and 1.75% convertible senior notes due 2023.

The table below shows the value of the consideration paid in connection with the Pandora Acquisition:

		Total
Pandora common stock outstanding		272
Exchange ratio		1.44
Common stock issued		392
Price per share of Holdings common stock	$	5.83
Value of common stock issued to Pandora stockholders	$	2,285
Value of replacement equity awards attributable to pre-combination service	$	70
Consideration of common stock and replacement equity awards for pre-combination service	$	2,355
Sirius XM's Pandora preferred stock investment (related party fair value instrument) canceled	$	524
Total consideration for transactions	$	2,879
Value attributed to par at $0.001 par value	$	1
Balance to capital in excess of par value	$	2,354

The table below summarizes the fair value of the assets acquired and liabilities assumed as of the acquisition date:

Acquired Assets:		
Cash and cash equivalents	$	313
Receivables, net		353
Prepaid expenses and other current assets		109
Property and equipment		65
Intangible assets		1,107
Goodwill		1,562
Deferred tax assets		75
Operating lease right-of-use assets		96
Long term assets		7
Total assets	$	3,687
Assumed Liabilities:		
Accounts payable and accrued expenses	$	306
Deferred revenue		37
Operating lease current liabilities		27
Current maturities of debt		151
Long-term debt (a)		218
Operating lease liabilities		62
Other long-term liabilities		7
Total liabilities	$	808
Total consideration	$	2,879

(a) In order to present the assets acquired and liabilities assumed, the conversion feature associated with the convertible notes for $62 has been included within Long-term debt in the table above and included within Additional paid-in-capital within our unaudited statement of stockholders' equity (deficit). Refer to Note 12 for additional information.

The Pandora Acquisition was accounted for using the acquisition method of accounting. The initial purchase price allocation is preliminary and is subject to revision as permitted by ASC 805, *Business Combinations* . The primary areas of the purchase price allocation that are not yet finalized are related to certain current assets, contingencies and tax balances. The excess purchase price over identifiable net tangible and intangible assets of $1,562 has been recorded to Goodwill in our

unaudited consolidated balance sheets as of June 30, 2019 . A total of $776 has been allocated to identifiable intangible assets subject to amortization and relates to the assessed fair value of the acquired customer relationships and software and technology and is being amortized over the estimated weighted average useful lives of 8 and 5 years , respectively. A total of $331 has been allocated to identifiable indefinite lived intangible assets and relates to the assessed fair value of the acquired trademarks. The fair value assessed for the majority of the remaining assets acquired and liabilities assumed equaled their carrying value. Goodwill represents synergies and economies of scale expected from the combination of services. Goodwill has been allocated to the Pandora segment. Additionally, in connection with the Pandora Acquisition, we acquired gross net operating loss ("NOL") carryforwards of approximately $1,199 for federal income tax purposes available to offset future taxable income. The acquired NOL's are limited by Section 382 of the Internal Revenue Code. Those limitations are not expected to impact our ability to fully utilize those NOL's within the carryforward period.

We recognized acquisition related costs of $7 and $83 that were expensed in Acquisition and other related costs in our unaudited consolidated statements of comprehensive income during the three and six months ended June 30, 2019 , respectively.

Pro Forma Financial Information

Pandora was consolidated into our financial statements starting on the acquisition date, February 1, 2019. The aggregate revenue and net loss of Pandora consolidated into our financial statements since the date of acquisition was $441 and $56 , respectively, for the three months ended June 30, 2019 and $692 and $178 for the six months ended June 30, 2019 , respectively. The following pro forma financial information presents our results as if the Pandora Acquisition had occurred on January 1, 2018:

	For the Three Months Ended June 30,		For the Six Months Ended June 30,	
	2019	2018	2019	2018
Total revenue	$ 1,979	$ 1,819	$ 3,839	$ 3,516
Net income	$ 265	$ 143	$ 446	$ 291

These pro forma results are based on estimates and assumptions, which we believe are reasonable. They are not the results that would have been realized had the acquisition actually occurred on January 1, 2018 and are not indicative of our consolidated results of operations in future periods. The pro forma results primarily include adjustments related to amortization of acquired intangible assets, depreciation of property and equipment, acquisition costs and associated tax impacts (with respect to the three months ended June 30, 2019, represents the effect of purchase price accounting as Pandora's results of operations were fully reflected for the period).

(3) Summary of Significant Accounting Policies

Fair Value Measurements

For assets and liabilities required to be reported at fair value, GAAP provides a hierarchy that prioritizes inputs to valuation techniques used to measure fair value into three broad levels. Level 1 inputs are based on unadjusted quoted prices in active markets for identical instruments. Level 2 inputs are inputs, other than quoted market prices included within Level 1, that are observable for the asset or liability, either directly or indirectly. Level 3 inputs are unobservable inputs for the asset or liability. As of June 30, 2019 and December 31, 2018 , the carrying amounts of cash and cash equivalents, receivables, and accounts payable approximated fair value due to the short-term nature of these instruments.

Our assets and liabilities measured at fair value were as follows:

	June 30, 2019				December 31, 2018			
	Level 1	Level 2	Level 3	Total Fair Value	Level 1	Level 2	Level 3	Total Fair Value
Assets:								
Pandora investment [(a)]	—	—	—	$ —	—	$ 523	—	$ 523
Liabilities:								
Debt [(b)]	—	$ 8,146	—	$ 8,146	—	$ 6,633	—	$ 6,633

(a) During the year ended December 31, 2017, Sirius XM completed a $480 preferred stock investment in Pandora. Prior to the Pandora Acquisition, we elected the fair value option to account for this investment. This investment was canceled in conjunction with the Pandora Acquisition. Refer to Note 2 for information on this acquisition.

(b) The fair value for non-publicly traded debt is based upon estimates from a market maker and brokerage firm. Refer to Note 12 for information related to the carrying value of our debt as of June 30, 2019 and December 31, 2018 .

Accumulated Other Comprehensive Income (Loss)

Accumulated other comprehensive income of $8 was primarily comprised of the cumulative foreign currency translation adjustments related to our investment in and loan to Sirius XM Canada (refer to Note 11 for additional information). During the three and six months ended June 30, 2019 , we recorded foreign currency translation adjustment income of $7 and $14 , respectively, net of tax expense of $3 and $5 , respectively. During the three and six months ended June 30, 2018 , we recorded a foreign currency translation adjustment loss of $9 and $18 , respectively, net of a tax benefit of $3 and $6 , respectively.

Recent Accounting Pronouncements

In August 2018, the Financial Accounting Standards Board ("FASB") issued ASU 2018-15, *Intangibles—Goodwill and Other—Internal-Use Software (Subtopic 350-40): Customer's Accounting for Implementation Costs Incurred in a Cloud Computing Arrangement That Is a Service Contract* . The amendments in this ASU align the requirements for capitalizing implementation costs incurred in a hosting arrangement with the requirements for capitalizing implementation costs incurred to develop or obtain internal-use software. The implementation costs incurred in a hosting arrangement that is a service contract should be presented as a prepaid asset in the balance sheet and expensed over the term of the hosting arrangement to the same line item in the statement of income as the costs related to the hosting fees. The guidance in this ASU is effective for fiscal years beginning after December 15, 2019, including interim periods within those fiscal years, and early adoption is permitted including adoption in any interim period. The amendments should be applied either retrospectively or prospectively to all implementation costs incurred after adoption. This ASU will not have a material impact on our consolidated statements of operations.

Recently Adopted Accounting Policies

ASU 2016-02, Leases (Topic 842). In February 2016, FASB issued ASU 2016-02 which requires companies to recognize lease assets and liabilities arising from operating leases in the statement of financial position. This ASU does not significantly change the previous lease guidance for how a lessee should recognize, measure, and present expenses and cash flows arising from a lease. Additionally, the criteria for classifying a finance lease versus an operating lease are substantially the same as the previous guidance. This ASU is effective for fiscal years beginning after December 15, 2018, including interim periods within those fiscal years, and early adoption is permitted. In July 2018, the FASB issued ASU 2018-11, *Leases (Topic 842) Targeted Improvements* , amending certain aspects of the new leasing standard. The amendment allows an additional optional transition method whereby an entity records a cumulative effect adjustment to opening retained earnings in the year of adoption without restating prior periods. We adopted this ASU on January 1, 2019 and elected the additional transition method per ASU 2018-11. Our leases consist of repeater leases, facility leases and equipment leases. We elected the package of practical expedients permitted under the transition guidance within the new standard.

Adoption of the new standard resulted in the recording of additional lease assets and lease liabilities of approximately $347 and $369 , respectively, as of January 1, 2019. The standard did not impact our consolidated statements of operations, consolidated statements of cash flows or debt. Additionally, we did not record a cumulative effect adjustment to opening retained earnings.

SIRIUS XM HOLDINGS INC. AND SUBSIDIARIES
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS - Continued
(UNAUDITED)
(Dollars and shares in millions, except per share amounts)

The effect of the changes made to our consolidated balance sheet as of January 1, 2019 for the adoption of ASU 2016-02 is included in the table below.

	Balance at December 31, 2018	Adjustments Due to ASU 2016-02	Balance at January 1, 2019
Balance Sheet			
Assets:			
Operating lease right-of-use assets	$ —	$ 347	$ 347
Liabilities:			
Accounts payable and accrued expenses	$ 736	$ (1)	$ 735
Operating lease current liabilities	—	30	30
Operating lease liabilities	—	339	339
Other long-term liabilities	102	(21)	81

(4) Earnings per Share

Basic net income per common share is calculated by dividing the income available to common stockholders by the weighted average common shares outstanding during each reporting period. Diluted net income per common share adjusts the weighted average number of common shares outstanding for the potential dilution that could occur if common stock equivalents (stock options, restricted stock units and convertible debt) were exercised or converted into common stock, calculated using the treasury stock method. We had no participating securities during the three and six months ended June 30, 2019 and 2018 .

Common stock equivalents of 88 and 24 for the three months ended June 30, 2019 and 2018 , respectively, and 71 and 45 for the six months ended June 30, 2019 and 2018 , respectively, were excluded from the calculation of diluted net income per common share as the effect would have been anti-dilutive. We issued 392 shares of our common stock in connection with the Pandora Acquisition.

	For the Three Months Ended June 30,		For the Six Months Ended June 30,	
	2019	2018	2019	2018
Numerator:				
Net Income available to common stockholders for basic net income per common share	$ 263	$ 293	$ 425	$ 582
Effect of interest on assumed conversions of convertible debt, net of tax	2	—	3	—
Net Income available to common stockholders for dilutive net income per common share	$ 265	$ 293	$ 428	$ 582
Denominator:				
Weighted average common shares outstanding for basic net income per common share	4,568	4,482	4,569	4,487
Weighted average impact of assumed convertible notes	29	—	27	—
Weighted average impact of dilutive equity instruments	78	107	81	102
Weighted average shares for diluted net income per common share	4,675	4,589	4,677	4,589
Net income per common share:				
Basic	$ 0.06	$ 0.07	$ 0.09	$ 0.13
Diluted	$ 0.06	$ 0.06	$ 0.09	$ 0.13

SIRIUS XM HOLDINGS INC. AND SUBSIDIARIES
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS - Continued
(UNAUDITED)
(Dollars and shares in millions, except per share amounts)

(5) Receivables, net

Receivables, net, includes customer accounts receivable, receivables from distributors and other receivables.

Customer accounts receivable, net, includes receivables from our subscribers, advertising customers and other customers, and is stated at amounts due, net of an allowance for doubtful accounts. Our allowance for doubtful accounts is based upon our assessment of various factors. We consider historical experience, the age of the receivable balances, current economic conditions and other factors that may affect the counterparty's ability to pay. Bad debt expense is included in Customer service and billing expense in our unaudited consolidated statements of comprehensive income.

Receivables from distributors primarily include billed and unbilled amounts due from automakers for services included in the sale or lease price of vehicles, as well as billed amounts due from wholesale distributors of our satellite radios. Other receivables primarily include amounts due from manufacturers of our radios, modules and chipsets where we are entitled to subsidies and royalties based on the number of units produced. We have not established an allowance for doubtful accounts for our receivables from distributors or other receivables as we have historically not experienced any significant collection issues with automakers or other third parties.

Receivables, net, consists of the following:

	June 30, 2019	December 31, 2018
Gross customer accounts receivable	$ 501	$ 105
Allowance for doubtful accounts	(13)	(7)
Customer accounts receivable, net	$ 488	$ 98
Receivables from distributors	112	107
Other receivables	28	28
Total receivables, net	$ 628	$ 233

(6) Inventory, net

Inventory consists of finished goods, refurbished goods, chipsets and other raw material components used in manufacturing radios and connected vehicle devices. Inventory is stated at the lower of cost or market. We record an estimated allowance for inventory that is considered slow moving or obsolete or whose carrying value is in excess of net realizable value. The provision related to products purchased for resale in our direct to consumer distribution channel and components held for resale by us is reported as a component of Cost of equipment in our unaudited consolidated statements of comprehensive income. The provision related to inventory consumed in our OEM channel is reported as a component of Subscriber acquisition costs in our unaudited consolidated statements of comprehensive income.

Inventory, net, consists of the following:

	June 30, 2019	December 31, 2018
Raw materials	$ 4	$ 5
Finished goods	19	23
Allowance for obsolescence	(6)	(6)
Total inventory, net	$ 17	$ 22

(7) Goodwill

Goodwill represents the excess of the purchase price over the estimated fair value of the net tangible and identifiable intangible assets acquired in business combinations. Our annual impairment assessment of our two reporting units is performed as of the fourth quarter of each year, and an assessment is performed at other times if an event occurs or circumstances change that would more likely than not reduce the fair value of a reporting unit below its carrying amount. ASC 350, *Intangibles - Goodwill and Other* , states that an entity should perform its annual or interim goodwill impairment test by comparing the fair

value of a reporting unit with its carrying amount and recognize an impairment charge for the amount by which the carrying amount exceeds the reporting unit's fair value.

As of June 30, 2019 , there were no indicators of impairment, and no impairment losses were recorded for goodwill during the three and six months ended June 30, 2019 and 2018 . As of June 30, 2019 , the cumulative balance of goodwill impairments recorded since the July 2008 merger between our wholly owned subsidiary, Vernon Merger Corporation, and XM Satellite Radio Holdings Inc. ("XM"), was $4,766 , which was recognized during the year ended December 31, 2008.

As a result of the Pandora Acquisition, we recorded additional goodwill of $1,562 during the six months ended June 30, 2019 at our Pandora reporting unit. The goodwill of the acquired company is not deductible for tax purposes. Refer to Note 2 for information on this acquisition.

(8) Intangible Assets

Our intangible assets include the following:

		June 30, 2019			December 31, 2018		
	Weighted Average Useful Lives	Gross Carrying Value	Accumulated Amortization	Net Carrying Value	Gross Carrying Value	Accumulated Amortization	Net Carrying Value
Indefinite life intangible assets:							
FCC licenses	Indefinite	$ 2,084	$ —	$ 2,084	$ 2,084	$ —	$ 2,084
Trademarks	Indefinite	251	—	251	251	—	251
Definite life intangible assets:							
OEM relationships	15 years	220	(83)	137	220	(76)	144
Licensing agreements	12 years	45	(40)	5	45	(38)	7
Software and technology	7 years	35	(23)	12	35	(20)	15
Due to Pandora Acquisition:							
Indefinite life intangible assets:							
Trademarks	Indefinite	$ 331	$ —	$ 331	$ —	$ —	$ —
Definite life intangible assets:							
Customer relationships	8 years	403	(22)	381	—	—	—
Software and technology	5 years	373	(31)	342	—	—	—
Total intangible assets		$ 3,742	$ (199)	$ 3,543	$ 2,635	$ (134)	$ 2,501

Indefinite Life Intangible Assets

We have identified our FCC licenses and the Pandora and XM trademarks as indefinite life intangible assets after considering the expected use of the assets, the regulatory and economic environment within which they are used and the effects of obsolescence on their use. As part of the Pandora Acquisition, we also identified $331 related to its trademarks, for which the fair value was determined using the relief from royalty method as of the acquisition date.

We hold FCC licenses to operate our satellite digital audio radio service and provide ancillary services. Each of the FCC licenses authorizes us to use radio spectrum, a reusable resource that does not deplete or exhaust over time.

Our annual impairment assessment of our identifiable indefinite life intangible assets is performed as of the fourth quarter of each year. An assessment is performed at other times if an event occurs or circumstances change that would more likely than not reduce the fair value of the asset below its carrying value. If the carrying value of the intangible assets exceeds its fair value, an impairment loss is recognized. As of June 30, 2019 , there were no indicators of impairment, and no impairment loss was recognized for intangible assets with indefinite lives during the three and six months ended June 30, 2019 and 2018 .

Definite Life Intangible Assets

Amortization expense for all definite life intangible assets was $38 and $6 for the three months ended June 30, 2019 and 2018 , respectively, and $65 and $12 for the six months ended June 30, 2019 and 2018 , respectively. There were no retirements

of definite lived intangible assets during the three and six months ended June 30, 2019 . As part of the Pandora Acquisition, $776 was allocated to identifiable intangible assets subject to amortization and related to the assessed fair value of customer relationships and software and technology, which was determined by using the multi-period excess earnings method and the relief from royalty method, respectively, as of the acquisition date.

The expected amortization expense for each of the fiscal years 2019 through 2023 and for periods thereafter is as follows:

Years ending December 31,	Amount
2019 (remaining)	$ 76
2020	152
2021	146
2022	144
2023	134
Thereafter	225
Total definite life intangible assets, net	$ 877

(9) Property and Equipment

Property and equipment, net, consists of the following:

	June 30, 2019	December 31, 2018
Satellite system	$ 1,587	$ 1,587
Terrestrial repeater network	99	98
Leasehold improvements	82	58
Broadcast studio equipment	114	111
Capitalized software and hardware	894	824
Satellite telemetry, tracking and control facilities	82	76
Furniture, fixtures, equipment and other	102	97
Land	38	38
Building	63	63
Construction in progress	534	412
Total property and equipment	3,595	3,364
Accumulated depreciation and amortization	(2,012)	(1,851)
Property and equipment, net	$ 1,583	$ 1,513

Construction in progress consists of the following:

	June 30, 2019	December 31, 2018
Satellite system	$ 329	$ 296
Terrestrial repeater network	6	5
Capitalized software and hardware	152	77
Other	47	34
Construction in progress	$ 534	$ 412

Depreciation and amortization expense on property and equipment was $81 and $69 for the three months ended June 30, 2019 and 2018 , respectively, and $161 and $135 for the six months ended June 30, 2019 and 2018 , respectively. There were no retirements of property and equipment during the six months ended June 30, 2019 and 2018 .

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We capitalize a portion of the interest on funds borrowed to finance the construction and launch of our satellites. Capitalized interest is recorded as part of the asset's cost and depreciated over the satellite's useful life. Capitalized interest costs were $4 and $3 for the three months ended June 30, 2019 and 2018 , respectively, and $8 and $5 for the six months ended June 30, 2019 and 2018 , respectively, which related to the construction of our SXM-7 and SXM-8 satellites. We also capitalize a portion of share-based compensation related to employee time for capitalized software projects. Capitalized share-based compensation costs were $4 and $7 for the three and six months ended June 30, 2019 , respectively. We did no t capitalize any share-based compensation for the three and six months ended June 30, 2018 .

Satellites

As of June 30, 2019 , we owned a fleet of five satellites. The chart below provides certain information on our satellites as of June 30, 2019 :

Satellite Description	Year Delivered	Estimated End of Depreciable Life
SIRIUS FM-5	2009	2024
SIRIUS FM-6	2013	2028
XM-3	2005	2020
XM-4	2006	2021
XM-5	2010	2025

Each satellite requires an FCC license and prior to the expiration of each license, we are required to apply for a renewal of the FCC satellite licenses. The renewal and extension of our licenses is reasonably certain at minimal cost, which is expensed as incurred.

The following table outlines the years in which each of our satellite licenses expires:

FCC satellite licenses	Expiration year
SIRIUS FM-5	2025
SIRIUS FM-6	2022
XM-3	2021
XM-4	2022
XM-5	2026

(10) Leases

We have operating and finance leases for offices, terrestrial repeaters, data centers and certain equipment. Our leases have remaining lease terms of less than 1 year to 18 years , some of which may include options to extend the leases for up to 5 years , and some of which may include options to terminate the leases within 1 year . We elected the practical expedient to account for the lease and non-lease components as a single component. Additionally, we elected the practical expedient to not recognize right-of-use assets or lease liabilities for short-term leases, which are those leases with a term of twelve months or less at the lease commencement date.

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The components of lease expense were as follows:

	For the Three Months Ended June 30,	For the Six Months Ended June 30,
	2019	2019
Operating lease cost	$ 21	$ 38
Finance lease cost		
Amortization of right-of-use assets	2	3
Sublease income	(1)	(2)
Total lease cost	$ 22	$ 39

Supplemental cash flow information related to leases was as follows:

	For the Six Months Ended June 30,
	2019
Cash paid for amounts included in the measurement of lease liabilities:	
Operating cash flows from operating leases	$ 36
Financing cash flows from finance leases	$ 2
Right-of-use assets obtained in exchange for lease obligations:	
Operating leases	$ 36

Supplemental balance sheet information related to leases was as follows:

	June 30, 2019
Operating Leases	
Operating lease right-of-use assets	$ 442
Operating lease current liabilities	47
Operating lease liabilities	418
Total operating lease liabilities	$ 465

	June 30, 2019
Finance Leases	
Property and equipment, gross	$ 31
Accumulated depreciation	(23)
Property and equipment, net	$ 8
Current maturities of debt	$ 3
Long-term debt	2
Total finance lease liabilities	$ 5

	June 30, 2019
Weighted Average Remaining Lease Term	
Operating leases	10 years
Finance leases	2 years

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	June 30, 2019
Weighted Average Discount Rate	
Operating leases	5.3%
Finance leases	1.8%

Maturities of lease liabilities were as follows:

	Operating Leases	Finance Leases
Year ending December 31,		
2019 (remaining)	$ 30	$ 2
2020	73	2
2021	63	1
2022	60	—
2023	58	—
Thereafter	319	—
Total future minimum lease payments	603	5
Less imputed interest	(138)	—
Total	$ 465	$ 5

(11) Related Party Transactions

In the normal course of business, we enter into transactions with related parties such as Sirius XM Canada.

Liberty Media

As of June 30, 2019 , Liberty Media beneficially owned, directly and indirectly, approximately 70% of the outstanding shares of our common stock. Liberty Media has two executives and one of its directors on our board of directors. Gregory B. Maffei, the President and Chief Executive Officer of Liberty Media, is the Chairman of our board of directors.

Sirius XM Canada

In 2017, Sirius XM completed a recapitalization of Sirius XM Canada (the “Transaction”), which is now a privately held corporation. Following the Transaction, Sirius XM holds a 70% equity interest and 33% voting interest in Sirius XM Canada. The total consideration from Sirius XM to Sirius XM Canada during the year ended December 31, 2017 was $309 , which included $130 in cash and we issued 35 shares of our common stock with an aggregate value of $179 to the holders of the shares of Sirius XM Canada acquired in the Transaction. We own 591 shares of preferred stock of Sirius XM Canada, which has a liquidation preference of one Canadian dollar per share. Sirius XM also made a loan to Sirius XM Canada in the aggregate amount of $131 in connection with the Transaction. The loan is denominated in Canadian dollars and is considered a long-term investment with any unrealized gains or losses reported within Accumulated other comprehensive (loss) income. During the six months ended June 30, 2019 and 2018 , Sirius XM Canada repaid less than $1 and $3 of the principal amount of the loan, respectively.

In connection with the Transaction, Sirius XM also entered into a Services Agreement and an Advisory Services Agreement with Sirius XM Canada. Each agreement has a thirty year term. Pursuant to the Services Agreement, Sirius XM Canada pays Sirius XM 25% of its gross revenues on a monthly basis through December 31, 2021 and 30% of its gross revenues on a monthly basis thereafter. Pursuant to the Advisory Services Agreement, Sirius XM Canada pays Sirius XM 5% of its gross revenues on a monthly basis.

Sirius XM Canada is accounted for as an equity method investment, and its results are not consolidated in our unaudited consolidated financial statements. Sirius XM Canada does not meet the requirements for consolidation as we do not have the ability to direct the most significant activities that impact Sirius XM Canada's economic performance.

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Our related party long-term assets balance as of June 30, 2019 and December 31, 2018 included the carrying value of our investment balance in Sirius XM Canada of $325 and $311 , respectively, and, as of June 30, 2019 and December 31, 2018 , also included $131 and $126 , respectively, for the long-term value of the outstanding loan to Sirius XM Canada.

Sirius XM Canada paid gross dividends to us of less than $1 during each of the three months ended June 30, 2019 and 2018 , and less than $1 and $1 during the six months ended June 30, 2019 and 2018 , respectively. Dividends are first recorded as a reduction to our investment balance in Sirius XM Canada to the extent a balance exists and then as Other (expense) income for any remaining portion.

We recorded revenue from Sirius XM Canada as Other revenue in our unaudited consolidated statements of comprehensive income of $24 and $23 for the three months ended June 30, 2019 and 2018 , respectively, and $48 and $47 for the six months ended June 30, 2019 and 2018 , respectively.

Pandora

The $523 preferred stock investment in Pandora as of December 31, 2018 was canceled in conjunction with the Pandora Acquisition. Refer to Note 2 for information on this acquisition.

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(12) Debt

Our debt as of June 30, 2019 and December 31, 2018 consisted of the following:

Issuer / Borrower	Issued	Debt	Maturity Date	Interest Payable	Principal Amount at June 30, 2019	Carrying value [a] at June 30, 2019	Carrying value [a] at December 31, 2018
Pandora (b) (c)	December 2015	1.75% Convertible Senior Notes	December 1, 2020	semi-annually on June 1 and December 1	$ 1	$ 1	$ —
Sirius XM (d)	July 2017	3.875% Senior Notes	August 1, 2022	semi-annually on February 1 and August 1	1,000	994	994
Sirius XM (d)	May 2013	4.625% Senior Notes	May 15, 2023	semi-annually on May 15 and November 15	500	497	497
Pandora (b) (e)	June 2018	1.75% Convertible Senior Notes	December 1, 2023	semi-annually on June 1 and December 1	193	160	—
Sirius XM (d) (h)	May 2014	6.00% Senior Notes	July 15, 2024	semi-annually on January 15 and July 15	1,500	1,490	1,490
Sirius XM (d)	March 2015	5.375% Senior Notes	April 15, 2025	semi-annually on April 15 and October 15	1,000	993	992
Sirius XM (d)	May 2016	5.375% Senior Notes	July 15, 2026	semi-annually on January 15 and July 15	1,000	991	991
Sirius XM (d)	July 2017	5.00% Senior Notes	August 1, 2027	semi-annually on February 1 and August 1	1,500	1,488	1,487
Sirius XM (d) (g)	June 2019	5.500% Senior Notes	July 1, 2029	semi-annually on January 1 and July 1	1,250	1,236	—
Sirius XM (f)	December 2012	Senior Secured Revolving Credit Facility (the "Credit Facility")	June 29, 2023	variable fee paid quarterly	1,750	—	439
Sirius XM	Various	Finance leases	Various	n/a	n/a	5	5
Total Debt						7,855	6,895
Less: total current maturities						3	3
Less: total deferred financing costs						9	7
Total long-term debt						$ 7,843	$ 6,885

(a) The carrying value of the obligations is net of any remaining unamortized original issue discount.
(b) Holdings has unconditionally guaranteed all of the payment obligations of Pandora under these notes.
(c) We acquired $152 in principal amount of the 1.75% Convertible Senior Notes due 2020 as part of the Pandora Acquisition. On February 14, 2019, Pandora announced a tender offer to repurchase for cash any and all of its outstanding 1.75% Convertible Senior Notes due 2020 at a price equal to 100% of the aggregate principal amount thereof plus accrued and unpaid interest thereon to, but not including, the repurchase date. On March 18, 2019, we purchased $ 151 in aggregate principal amount of the 1.75% Convertible Senior Notes due 2020 that had been validly tendered and not validly withdrawn in the repurchase offer. We recorded a $1 Loss on extinguishment of debt in connection with this transaction. In addition, we unwound a capped call security acquired as part of the Pandora Acquisition in March 2019 for $3 .
(d) All material domestic subsidiaries, including Pandora and its subsidiaries, that guarantee the Credit Facility have guaranteed these notes.
(e) We acquired $193 in principal amount of the 1.75% Convertible Senior Notes due 2023 as part of the Pandora Acquisition. We allocate the principal amount of the 1.75% Convertible Senior Notes due 2023 between the liability and equity components. The value assigned to the debt components of the 1.75% Convertible Senior Notes due 2023 is the estimated fair value as of the issuance date of similar debt without the conversion feature. The difference between the fair value of the debt and this estimated fair value represents the value which has been assigned to the equity component. The equity component is recorded to additional paid-in capital and is not remeasured as long as it continues to meet the conditions for equity classification. The excess of the principal amount of the Notes over the carrying amount of the liability component is recorded as a debt discount and is being amortized to interest expense using the

effective interest method through the December 1, 2023 maturity date. The 1.75% Convertible Senior Notes due 2023 were not convertible into common stock and not redeemable as of June 30, 2019 . As a result, we have classified the debt as Long-term within our unaudited consolidated balance sheets.

(f) The Credit Facility expires in June 2023. Sirius XM's obligations under the Credit Facility are guaranteed by certain of its material domestic subsidiaries, including Pandora and its subsidiaries, and are secured by a lien on substantially all of Sirius XM's assets and the assets of its material domestic subsidiaries. Interest on borrowings is payable on a monthly basis and accrues at a rate based on LIBOR plus an applicable rate. Sirius XM is also required to pay a variable fee on the average daily unused portion of the Credit Facility which is payable on a quarterly basis. The variable rate for the unused portion of the Credit Facility was 0.25% per annum as of June 30, 2019 . All of Sirius XM's outstanding borrowings under the Credit Facility are classified as Long-term debt within our unaudited consolidated balance sheets due to the long-term maturity of this debt. Additionally, the amount available for future borrowing under the Credit Facility is reduced by letters of credit issued for the benefit of Pandora, which were $1 as of June 30, 2019 .

(g) On June 7, 2019, Sirius XM issued $1,250 aggregate principal amount of the 5.500% Senior Notes due 2029 with a net original issuance discount and deferred financing costs in the aggregate of $16 .

(h) On June 18, 2019, Sirius XM issued a redemption notice pursuant to the indenture governing the 6.00% Senior Notes due 2024 to redeem all of these 6.00% Notes at a redemption price of 103.00% of the principal amount thereof plus accrued and unpaid interest thereon to, but excluding, the date of the redemption. On July 18, 2019, Sirius XM completed the redemption of the 6.00% Notes. For a discussion of subsequent events related to this debt refer to Note 18.

Covenants and Restrictions

Under the Credit Facility, Sirius XM, our wholly owned subsidiary, must comply with a debt maintenance covenant that it cannot exceed a total leverage ratio, calculated as consolidated total debt to consolidated operating cash flow, of 5.0 to 1.0. The Credit Facility generally requires compliance with certain covenants that restrict Sirius XM's ability to, among other things, (i) incur additional indebtedness, (ii) incur liens, (iii) pay dividends or make certain other restricted payments, investments or acquisitions, (iv) enter into certain transactions with affiliates, (v) merge or consolidate with another person, (vi) sell, assign, lease or otherwise dispose of all or substantially all of Sirius XM's assets, and (vii) make voluntary prepayments of certain debt, in each case subject to exceptions.

The indentures governing Sirius XM's notes restrict Sirius XM's non-guarantor subsidiaries' ability to create, assume, incur or guarantee additional indebtedness without such non-guarantor subsidiary guaranteeing each such series of notes on a pari passu basis. The indentures governing the notes also contain covenants that, among other things, limit Sirius XM's ability and the ability of its subsidiaries to create certain liens; enter into sale/leaseback transactions; and merge or consolidate.

Under Sirius XM's debt agreements, the following generally constitute an event of default: (i) a default in the payment of interest; (ii) a default in the payment of principal; (iii) failure to comply with covenants; (iv) failure to pay other indebtedness after final maturity or acceleration of other indebtedness exceeding a specified amount; (v) certain events of bankruptcy; (vi) a judgment for payment of money exceeding a specified aggregate amount; and (vii) voidance of subsidiary guarantees, subject to grace periods where applicable. If an event of default occurs and is continuing, our debt could become immediately due and payable.

Pandora Convertible Notes

Pandora's 1.75% Convertible Senior Notes due 2020 (the “Pandora 2020 Notes”) and Pandora's 1.75% Convertible Senior Notes due 2023 (the “Pandora 2023 Notes” and, together with the Pandora 2020 Notes, the “Pandora Convertible Notes”) are unsecured, senior obligations of Pandora. Holdings has guaranteed the payment and performance obligations of Pandora under the Pandora Convertible Notes and the indentures governing the Pandora Convertible Notes.

The Pandora 2020 Notes will mature on December 1, 2020, unless earlier repurchased or redeemed by Pandora or converted in accordance with their terms. Upon consummation of the Pandora Acquisition, the conversion rate applicable to the Pandora 2020 Notes was 87.7032 shares of Holdings’ common stock per $1,000 principal amount of the Pandora 2020 Notes. Pandora has irrevocably elected and determined to settle all conversion obligations from and after February 1, 2019 with respect to the Pandora 2020 Notes solely in cash. During the six months ended June 30, 2019 , Pandora purchased $151 in aggregate principal amount of the Pandora 2020 Notes. See footnote (c) to the table above.

The Pandora 2023 Notes will mature on December 1, 2023, unless earlier repurchased or redeemed by Pandora or converted in accordance with their terms. Upon consummation of the Pandora Acquisition, the conversion rate applicable to the Pandora 2023 Notes was 150.4466 shares of Holdings common stock per $1,000 principal amount of the Pandora 2023 Notes.

The indentures governing the Pandora Convertible Notes contain covenants that limit Pandora's ability to merge or consolidate and provide for customary events of default, which include nonpayment of principal or interest, breach of covenants, payment defaults or acceleration of other indebtedness and certain events of bankruptcy.

At June 30, 2019 and December 31, 2018 , we were in compliance with our debt covenants.

(13) Stockholders' Equity

Common Stock, par value $0.001 per share

We are authorized to issue up to 9,000 shares of common stock. There were 4,497 and 4,346 shares of common stock issued and 4,492 and 4,346 shares outstanding on June 30, 2019 and December 31, 2018 , respectively. As part of the Pandora Acquisition, we issued 392 shares of our common stock.

As of June 30, 2019 , there were 325 shares of common stock reserved for issuance in connection with outstanding stock based awards to be granted to members of our board of directors, employees and third parties.

Quarterly Dividends

During the six months ended June 30, 2019 , we declared and paid the following dividends:

Declaration Date	Dividend Per Share	Record Date	Total Amount	Payment Date
January 29, 2019	$ 0.0121	February 11, 2019	$ 57	February 28, 2019
April 23, 2019	$ 0.0121	May 10, 2019	$ 56	May 31, 2019

Stock Repurchase Program

As of June 30, 2019 , our board of directors had approved for repurchase an aggregate of $14,000 of our common stock. Our board of directors did not establish an end date for this stock repurchase program. Shares of common stock may be purchased from time to time on the open market, pursuant to pre-set trading plans meeting the requirements of Rule 10b5-1 under the Exchange Act, in privately negotiated transactions, including transactions with Liberty Media and its affiliates, or otherwise. As of June 30, 2019 , our cumulative repurchases since December 2012 under our stock repurchase program totaled 2,942 shares for $12,176 , and $1,824 remained available for future share repurchases under our stock repurchase program.

The following table summarizes our total share repurchase activity for the six months ended:

	June 30, 2019		June 30, 2018	
Share Repurchase Type	Shares	Amount	Shares	Amount
Open Market Repurchases [a]	259	$ 1,502	56	$ 317

(a) As of June 30, 2019 , $28 of common stock repurchases had not settled, nor been retired, and were recorded as Treasury stock within our unaudited consolidated balance sheets and unaudited consolidated statement of stockholders' equity (deficit). For a discussion of subsequent events refer to Note 18.

Preferred Stock, par value $0.001 per share

We are authorized to issue up to 50 shares of undesignated preferred stock with a liquidation preference of $0.001 per share. There were no shares of preferred stock issued or outstanding as of June 30, 2019 and 2018 .

(14) Benefit Plans

We recognized share-based payment expense of $57 and $36 for the three months ended June 30, 2019 and 2018 , respectively, and $127 and $70 for the six months ended June 30, 2019 and 2018 , respectively. This amount includes $21 of share-based compensation expense recorded in Acquisition and other related costs in our unaudited consolidated statements of comprehensive income during the six months ended June 30, 2019 .

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2015 Long-Term Stock Incentive Plan

In May 2015, our stockholders approved the Sirius XM Holdings Inc. 2015 Long-Term Stock Incentive Plan (the "2015 Plan"). Employees, consultants and members of our board of directors are eligible to receive awards under the 2015 Plan. The 2015 Plan provides for the grant of stock options, restricted stock awards, restricted stock units and other stock-based awards that the compensation committee of our board of directors deems appropriate. Stock-based awards granted under the 2015 Plan are generally subject to a graded vesting requirement, which is generally three to four years from the grant date. Stock options generally expire ten years from the date of grant. Restricted stock units include performance-based restricted stock units ("PRSUs"), the vesting of which are subject to the achievement of performance goals and the employee's continued employment and generally cliff vest on the third anniversary of the grant date. Each restricted stock unit entitles the holder to receive one share of common stock upon vesting. As of June 30, 2019 , 156 shares of common stock were available for future grants under the 2015 Plan.

In connection with the Pandora Acquisition, we assumed all shares available for issuance (including any shares that later become available for issuance in accordance with the terms of the applicable plans) under each of the 2014 Stock Incentive Plan of AdsWizz Inc., the Pandora Media, Inc. 2011 Equity Incentive Plan, the Pandora Media, Inc. 2004 Stock Plan and the TheSavageBeast.com, Inc. 2000 Stock Incentive Plan, which were previously approved by stockholders of Pandora or the applicable adopting entity. All shares available under these stock plans became additional shares available for grant pursuant to the terms of the 2015 Plan (as adjusted, to the extent appropriate, to reflect the application of the exchange ratio). Subject to certain limitations set forth in the 2015 Plan, such shares may be used for awards under the 2015 Plan.

Other Plans

We maintain six additional share-based benefit plans — the Sirius XM Radio Inc. 2009 Long-Term Stock Incentive Plan, the Amended and Restated Sirius Satellite Radio 2003 Long-Term Stock Incentive Plan, the 2014 Stock Incentive Plan of AdsWizz Inc., the Pandora Media, Inc. 2011 Equity Incentive Plan, the Pandora Media, Inc. 2004 Stock Plan and the TheSavageBeast.com, Inc. 2000 Stock Incentive Plan. Excluding dividend equivalent units granted as a result of a declared dividend, no further awards may be made under these plans.

The following table summarizes the weighted-average assumptions used to compute the fair value of options granted to employees:

	For the Three Months Ended June 30,		For the Six Months Ended June 30,	
	2019	2018	2019	2018
Risk-free interest rate	2.1%	2.6%	2.5%	2.5%
Expected life of options — years	3.99	3.48	3.36	3.54
Expected stock price volatility	34%	22%	26%	22%
Expected dividend yield	0.9%	0.6%	0.8%	0.7%

The following table summarizes stock option activity under our share-based plans for the six months ended June 30, 2019 :

	Options	Weighted-Average Exercise Price Per Share	Weighted-Average Remaining Contractual Term (Years)	Aggregate Intrinsic Value
Outstanding as of December 31, 2018	243	$ 4.22		
Options granted in connection with Pandora Acquisition	7	$ 3.85		
Granted	13	$ 6.00		
Exercised	(8)	$ 3.16		
Forfeited, cancelled or expired	(3)	$ 5.45		
Outstanding as of June 30, 2019	252	$ 4.32	5.89	$ 354
Exercisable as of June 30, 2019	151	$ 3.72	4.88	$ 284

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The weighted average grant date fair value per share of stock options granted during the six months ended June 30, 2019 was $1.26 . The total intrinsic value of stock options exercised during the six months ended June 30, 2019 and 2018 was $22 and $140 , respectively. During the six months ended June 30, 2019 , the number of net settled shares which were issued as a result of stock option exercises was 2 .

In connection with the Pandora Acquisition, each option granted by Pandora under its stock incentive plans to purchase shares of Pandora common stock, whether vested or unvested, was assumed and converted into an option to purchase shares of our common stock, with appropriate adjustments (based on the 1.44 exchange ratio) to the exercise price and number of shares of our common stock subject to such option, and has the same vesting schedule and exercise conditions as in effect as of immediately prior to the closing of the Pandora Acquisition; provided, that any Pandora stock option that had an exercise price per share that was equal to or greater than the value, at the closing of the Pandora Acquisition, of our common stock issued as merger consideration in exchange for each share of Pandora common stock, was canceled without payment. We recorded $8 to Goodwill related to pre-acquisition replacement equity awards attributable to pre-combination service.

We recognized share-based payment expense associated with stock options of $15 and $21 for the three months ended June 30, 2019 and 2018 , respectively, and $35 and $40 for the six months ended June 30, 2019 and 2018 , respectively.

The following table summarizes the restricted stock unit, including PRSU, activity under our share-based plans for the six months ended June 30, 2019 :

	Shares		Grant Date Fair Value Per Share
Nonvested as of December 31, 2018	35	$	5.50
Units granted in connection with Pandora Acquisition	48	$	5.83
Granted	12	$	5.84
Vested	(18)	$	5.78
Forfeited	(4)	$	5.78
Nonvested as of June 30, 2019	73	$	5.68

The total intrinsic value of restricted stock units, including PRSUs, vesting during the six months ended June 30, 2019 and 2018 was $102 and $23 , respectively. During the six months ended June 30, 2019 , the number of net settled shares which were issued as a result of restricted stock units vesting totaled 11 . During the six months ended June 30, 2019 , we granted 9 PRSUs to certain employees. We believe it is probable that the performance target applicable to these PRSUs will be achieved.

In connection with the Pandora Acquisition, each unvested restricted stock unit granted by Pandora under its stock incentive plans was assumed and converted into an unvested restricted stock unit of Holdings, with appropriate adjustments (based on the 1.44 exchange ratio) to the number of shares of our common stock to be received, and has the same vesting schedule and settlement date as in effect as of immediately prior to the closing of the Pandora Acquisition. We recorded $62 to Goodwill related to pre-acquisition replacement equity awards attributable to pre-combination service.

In connection with the cash dividend paid during the six months ended June 30, 2019 , we granted less than 1 restricted stock units, including PRSUs, in accordance with the terms of existing award agreements. These grants did not result in any additional incremental share-based payment expense being recognized during the six months ended June 30, 2019 .

We recognized share-based payment expense associated with restricted stock units, including PRSUs, of $42 and $15 for the three months ended June 30, 2019 and 2018 , respectively, and $92 and $30 for the six months ended June 30, 2019 and 2018 , respectively.

Total unrecognized compensation costs related to unvested share-based payment awards for stock options and restricted stock units, including PRSUs, granted to employees, members of our board of directors and third parties at June 30, 2019 and December 31, 2018 was $406 and $254 , respectively. The total unrecognized compensation costs at June 30, 2019 are expected to be recognized over a weighted-average period of 1.9 years .

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401(k) Savings Plans

Sirius XM Radio Inc. 401(k) Savings Plan

Sirius XM sponsors the Sirius XM Radio Inc. 401(k) Savings Plan (the "Sirius XM Plan") for eligible employees. The Sirius XM Plan allows eligible employees to voluntarily contribute from 1% to 50% of their pre-tax eligible earnings, subject to certain defined limits. We match 50% of an employee's voluntary contributions per pay period on the first 6% of an employee's pre-tax salary up to a maximum of 3% of eligible compensation. We may also make additional discretionary matching, true-up matching and non-elective contributions to the Sirius XM Plan. Employer matching contributions under the Sirius XM Plan vest at a rate of 33.33% for each year of employment and are fully vested after three years of employment for all current and future contributions. Our cash employer matching contributions are not used to purchase shares of our common stock on the open market, unless the employee elects our common stock as their investment option for this contribution. We recognized expenses of $2 for both the three months ended June 30, 2019 and 2018 , and $4 for both the six months ended June 30, 2019 and 2018 , in connection with the Sirius XM Plan.

Pandora Media, LLC 401(k) Profit Sharing Plan and Trust

Pandora sponsors the Pandora Media, LLC 401(k) Profit Sharing Plan and Trust (the "Pandora Plan") for eligible employees. The Pandora Plan allows eligible employees to voluntarily contribute from 1% to 75% of their pre-tax eligible earnings, subject to certain defined limits. There is no employer matching of employee contributions under the Pandora Plan.

Sirius XM Holdings Inc. Deferred Compensation Plan

The Sirius XM Holdings Inc. Deferred Compensation Plan (the "DCP") allows members of our board of directors and certain eligible employees to defer all or a portion of their base salary, cash incentive compensation and/or board of directors' cash compensation, as applicable. Pursuant to the terms of the DCP, we may elect to make additional contributions beyond amounts deferred by participants, but we are under no obligation to do so. We have established a grantor (or "rabbi") trust to facilitate the payment of our obligations under the DCP.

Contributions to the DCP, net of withdrawals, for both the three months ended June 30, 2019 and 2018 were less than $1 , and were $7 and $7 for six months ended June 30, 2019 and 2018 , respectively. As of June 30, 2019 and December 31, 2018 , the fair value of the investments held in the trust were $31 and $22 , respectively, which is included in Other long-term assets in our unaudited consolidated balance sheets and classified as trading securities. Trading gains and losses associated with these investments are recorded in Other (expense) income within our unaudited consolidated statements of comprehensive income. The associated liability is recorded within Other long-term liabilities in our unaudited consolidated balance sheets, and any increase or decrease in the liability is recorded in General and administration expense within our unaudited consolidated statements of comprehensive income. For the three and six months ended June 30, 2019 and 2018 , we recorded an immaterial amount of unrealized gains on investments held in the trust.

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(15) Commitments and Contingencies

The following table summarizes our expected contractual cash commitments as of June 30, 2019 :

	2019	2020	2021	2022	2023	Thereafter	Total
Debt obligations	$ 2	$ 2	$ 1	$ 1,000	$ 694	$ 6,250	$ 7,949
Cash interest payments	171	416	411	411	359	1,044	2,812
Satellite and transmission	70	51	4	2	1	3	131
Programming and content	131	235	133	59	35	130	723
Sales and marketing	26	34	19	14	4	11	108
Satellite incentive payments	5	10	9	9	9	53	95
Operating lease obligations	32	76	60	52	45	171	436
Advertising sales commitments	13	20	15	—	—	—	48
Royalties, minimum guarantees and other	221	212	131	62	17	7	650
Total [1]	$ 671	$ 1,056	$ 783	$ 1,609	$ 1,164	$ 7,669	$ 12,952

(1) The table does not include our reserve for uncertain tax positions, which at June 30, 2019 totaled $9 .

Debt obligations. Debt obligations include principal payments on outstanding debt and finance lease obligations.

Cash interest payments. Cash interest payments include interest due on outstanding debt and capital lease payments through maturity.

Satellite and transmission. We have entered into agreements with several third parties to design, build, launch and insure two satellites, SXM-7 and SXM-8. We also have entered into agreements with third parties to operate and maintain satellite telemetry, tracking and control facilities and certain components of our terrestrial repeater networks.

Programming and content. We have entered into various programming and content agreements. Under the terms of these agreements, our obligations include fixed payments, advertising commitments and revenue sharing arrangements. In certain of these agreements, the future revenue sharing costs are dependent upon many factors and are difficult to estimate; therefore, they are not included in our minimum contractual cash commitments.

Sales and marketing. We have entered into various marketing, sponsorship and distribution agreements to promote our brands and are obligated to make payments to sponsors, retailers, automakers and radio manufacturers under these agreements. Certain programming and content agreements also require us to purchase advertising on properties owned or controlled by the licensors.

Satellite incentive payments. Boeing Satellite Systems International, Inc., the manufacturer of certain of our in-orbit satellites, may be entitled to future in-orbit performance payments upon XM-3 and XM-4 meeting their fifteen -year design life, which we expect to occur. Boeing may also be entitled to up to $10 of additional incentive payments if our XM-4 satellite continues to operate above baseline specifications during the five years beyond the satellite's fifteen -year design life.

Maxar Technologies (formerly Space Systems/Loral), the manufacturer of certain of our in-orbit satellites, may be entitled to future in-orbit performance payments upon XM-5, SIRIUS FM-5 and SIRIUS FM-6 meeting their fifteen -year design life, which we expect to occur.

Operating lease obligations. We have entered into both cancelable and non-cancelable operating leases for office space, terrestrial repeaters, data centers and equipment. These leases provide for minimum lease payments, additional operating expense charges, leasehold improvements and rent escalations that have initial terms ranging from one to fifteen years , and certain leases have options to renew.

Advertising Sales Commitments. We have entered into agreements with third parties that contain minimum advertising sales guarantees and require that we make guaranteed payments. As of June 30, 2019 , we had future minimum guarantee commitments of $48 , of which $13 will be paid in 2019 and the remainder will be paid thereafter. On a quarterly basis, we record the greater of the cumulative actual expense incurred or the cumulative minimum guarantee based on our forecast for the minimum guarantee period. The minimum guarantee period is the period of time that the minimum guarantee relates to, as specified in the agreement, which may be annual or a longer period.

Royalties, Minimum Guarantees and Other. We have entered into music royalty arrangements that include fixed payments. Certain of our content agreements also contain minimum guarantees and require that we make upfront minimum guaranteed payments. During the six months ended June 30, 2019 , we prepaid $22 in content costs related to minimum guarantees. As of June 30, 2019 , we have future fixed minimum guarantee commitments of $147 , of which $86 will be paid in 2019 and the remainder will be paid thereafter. On a quarterly basis, we record the greater of the cumulative actual content costs incurred or the cumulative minimum guarantee based on forecasted usage for the minimum guarantee period. The minimum guarantee period is the period of time that the minimum guarantee relates to, as specified in each agreement, which may be annual or a longer period. The cumulative minimum guarantee, based on forecasted usage, considers factors such as listening hours, revenue, subscribers and other terms of each agreement that impact our expected attainment or recoupment of the minimum guarantees based on the relative attribution method.

Several of our content agreements also include provisions related to the royalty payments and structures of those agreements relative to other content licensing arrangements, which, if triggered, could cause our payments under those agreements to escalate. In addition, record labels, publishers and performing rights organizations (“PROs”) with whom we have entered into direct license agreements have the right to audit our content payments, and any such audit could result in disputes over whether we have paid the proper content costs.

We have also entered into various agreements with third parties for general operating purposes. The cost of our common stock acquired in our capital return program but not paid for as of June 30, 2019 was also included in this category.

In addition to the minimum contractual cash commitments described above, we have entered into other variable cost arrangements. These future costs are dependent upon many factors and are difficult to anticipate; however, these costs may be substantial. We may enter into additional programming, distribution, marketing and other agreements that contain similar variable cost provisions. We also have a surety bond of approximately $45 primarily used as security against non-performance in the normal course of business. We do not have any other significant off-balance sheet financing arrangements that are reasonably likely to have a material effect on our financial condition, results of operations, liquidity, capital expenditures or capital resources.

Legal Proceedings

In the ordinary course of business, we are a defendant or party to various claims and lawsuits, including those discussed below.

We record a liability when we believe that it is both probable that a liability will be incurred, and the amount of loss can be reasonably estimated. We evaluate developments in legal matters that could affect the amount of liability that has been previously accrued and make adjustments as appropriate. Significant judgment is required to determine both probability and the estimated amount of a loss or potential loss. We may be unable to reasonably estimate the reasonably possible loss or range of loss for a particular legal contingency for various reasons, including, among others, because: (i) the damages sought are indeterminate; (ii) the proceedings are in the relative early stages; (iii) there is uncertainty as to the outcome of pending proceedings (including motions and appeals); (iv) there is uncertainty as to the likelihood of settlement and the outcome of any negotiations with respect thereto; (v) there remain significant factual issues to be determined or resolved; (vi) the relevant law is unsettled; or (vii) the proceedings involve novel or untested legal theories. In such instances, there may be considerable uncertainty regarding the ultimate resolution of such matters, including the likelihood or magnitude of a possible eventual loss, if any.

Telephone Consumer Protection Act Suits . On March 13, 2017, Thomas Buchanan, individually and on behalf of all others similarly situated, filed a class action complaint against Sirius XM in the United States District Court for the Northern District of Texas, Dallas Division. The plaintiff in this action alleges that Sirius XM violated the Telephone Consumer

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Protection Act of 1991 (the "TCPA") by, among other things, making telephone solicitations to persons on the National Do-Not-Call registry, a database established to allow consumers to exclude themselves from telemarketing calls unless they consent to receive the calls in a signed, written agreement, and making calls to consumers in violation of our internal Do-Not-Call registry. The plaintiff is seeking various forms of relief, including statutory damages of five hundred dollars for each violation of the TCPA or, in the alternative, treble damages of up to fifteen hundred dollars for each knowing and willful violation of the TCPA and a permanent injunction prohibiting us from making, or having made, any calls to land lines that are listed on the National Do-Not-Call registry or our internal Do-Not-Call registry.

Following a mediation, in April 2019, Sirius XM entered into an agreement to settle this purported class action suit. The settlement resolves the claims of consumers for the period October 2013 through January 2019. As part of the settlement, Sirius XM paid $25 into a non-reversionary settlement fund from which cash to class members, notice, administrative costs, and attorney's fees and costs will be paid. The settlement also contemplates that Sirius XM will provide three months of service to its All Access subscription package for those members of the class that elect to receive it, in lieu of cash, at no cost to those class members and who are not active subscribers at the time of the distribution. The availability of this three -month service option will not diminish the $25 common fund. As part of the settlement, Sirius XM will also implement certain changes relating to its "Do-Not-Call" practices and telemarketing programs. Settlement of this matter is subject to, among other things, final approval by the Court.

Pre-1972 Sound Recording Litigation. On October 2, 2014, Flo & Eddie Inc. filed a class action suit against Pandora in the federal district court for the Central District of California. The complaint alleges a violation of California Civil Code Section 980, unfair competition, misappropriation and conversion in connection with the public performance of sound recordings recorded prior to February 15, 1972 (which we refer to as, "pre-1972 recordings"). On December 19, 2014, Pandora filed a motion to strike the complaint pursuant to California's Anti-Strategic Lawsuit Against Public Participation ("Anti-SLAPP") statute, which following denial of Pandora's motion was appealed to the Ninth Circuit Court of Appeals. In March 2017, the Ninth Circuit requested certification to the California Supreme Court on the substantive legal questions. The California Supreme Court accepted certification. In May 2019, the California Supreme Court issued an order dismissing consideration of the certified questions on the basis that, following the enactment of the Orrin G. Hatch-Bob Goodlatte Music Modernization Act, Pub. L. No. 115-264, 132 Stat. 3676 (2018) (the "MMA"), resolution of the questions posed by the Ninth Circuit Court of Appeals was no longer "necessary to . . . settle an important question of law."

In September and October 2015, Arthur and Barbara Sheridan filed separate class action suits against Pandora in the federal district courts for the Northern District of California and the District of New Jersey. The complaints allege a variety of violations of common law and state copyright statutes, common law misappropriation, unfair competition, conversion, unjust enrichment and violation of rights of publicity arising from allegations that Pandora owes royalties for the public performance of pre-1972 recordings. The *Sheridan* actions in California and New Jersey are currently stayed pending the Ninth Circuit's decision in *Flo & Eddie, Inc. v. Pandora Media, Inc* .

In September 2016, Ponderosa Twins Plus One and others filed a class action suit against Pandora alleging claims similar to those asserted in *Flo & Eddie, Inc. v. Pandora Media Inc* . This action is also currently stayed in the Northern District of California pending the Ninth Circuit's decision in *Flo & Eddie, Inc. v. Pandora Media, Inc* .

The MMA grants a newly available federal preemption defense to the claims asserted in the aforementioned lawsuits. In July 2019, Pandora made the required payments and reporting under the MMA for certain of its uses of pre-1972 recordings to avail itself of this federal preemption defense. Based on the federal preemption contained in the MMA (along with other considerations), Pandora has asked the Ninth Circuit to order the dismissal of the *Flo & Eddie, Inc. v. Pandora Media, Inc.* case. When the stays in the remaining cases-the two *Sheridan v. Pandora Media* , Inc. cases and the *Ponderosa Twins Plus One et al. v. Pandora Media* case-are lifted, Pandora expects to file motions to dismiss those actions as well.

We believe we have substantial defenses to the claims asserted in these actions, and we intend to defend these actions vigorously.

Other Matters . In the ordinary course of business, we are a defendant in various other lawsuits and arbitration proceedings, including derivative actions; actions filed by subscribers, both on behalf of themselves and on a class action basis; former employees; parties to contracts or leases; owners of patents, trademarks, copyrights or other intellectual property

and certain contingencies related to Pandora. None of these other matters, in our opinion, is likely to have a material adverse effect on our business, financial condition or results of operations.

(16) Segments and Geographic Information

In accordance with FASB ASC Topic 280, *Segment Reporting* , we disaggregate our operations into two reportable segments: Sirius XM and Pandora. The change in segment reporting is due to the acquisition of Pandora. The financial results of these segments are utilized by the chief operating decision maker, who is our Chief Executive Officer, for evaluating segment performance and allocating resources. Our reportable segments have been determined based on our internal management structure. For additional information on our segments refer to Note 1.

Segment results include the revenues and cost of services which are directly attributable to each segment. There are no indirect revenues or costs incurred that are allocated to the segments. There are planned intersegment advertising campaigns which will be eliminated. We had less than $1 of intersegment advertising revenue during the three and six months ended June 30, 2019 .

Segment revenue and gross profit were as follows during the periods presented:

	For the Three Months Ended June 30, 2019		
	Sirius XM	Pandora	Total
Revenue			
Subscriber revenue	$ 1,402	$ 135	$ 1,537
Advertising revenue	52	306	358
Equipment revenue	41	—	41
Other revenue	41	—	41
Total revenue	1,536	441	1,977
Cost of services [(a)]	(594)	(278)	(872)
Segment gross profit	$ 942	$ 163	$ 1,105

The reconciliation between reportable segment gross profit to consolidated income before income tax is as follows:

	Three Months Ended June 30, 2019
Segment Gross Profit	$ 1,105
Subscriber acquisition costs	(104)
Sales and marketing [(a)]	(213)
Engineering, design and development [(a)]	(61)
General and administrative [(a)]	(105)
Depreciation and amortization	(119)
Share-based payment expense	(57)
Acquisition and other related costs	(7)
Total other (expense) income	(100)
Consolidated income before income taxes	$ 339

(a) Share-based payment expense of $10 related to cost of services, $19 related to sales and marketing, $13 related to engineering, design and development and $15 related to general and administrative has been excluded.

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	For the Six Months Ended June 30, 2019		
	Sirius XM	Pandora	Total
Revenue			
Subscriber revenue	$ 2,772	$ 223	$ 2,995
Advertising revenue	98	469	567
Equipment revenue	82	—	82
Other revenue	77	—	77
Total revenue	3,029	692	3,721
Cost of services [(b)]	(1,163)	(448)	(1,611)
Segment gross profit	$ 1,866	$ 244	$ 2,110

The reconciliation between reportable segment gross profit to consolidated income before income tax is as follows:

	Six Months Ended June 30, 2019
Segment Gross Profit	$ 2,110
Subscriber acquisition costs	(212)
Sales and marketing [(b)]	(381)
Engineering, design and development [(b)]	(106)
General and administrative [(b)]	(224)
Depreciation and amortization	(226)
Share-based payment expense	(106)
Acquisition and other related costs	(83)
Total other (expense) income	(190)
Consolidated income before income taxes	$ 582

(b) Share-based payment expense of $19 related to cost of services, $34 related to sales and marketing, $22 related to engineering, design and development and $31 related to general and administrative has been excluded.

A measure of segment assets is not currently provided to the Chief Executive Officer and has therefore not been provided.

As of June 30, 2019 , long-lived assets were predominantly located in the United States. No individual foreign country represented a material portion of our consolidated revenue during the three and six months ended June 30, 2019 .

(17) Income Taxes

We file a consolidated federal income tax return for all of our wholly owned subsidiaries. For the three months ended June 30, 2019 and 2018 , income tax expense was $76 and $71 , respectively, and $157 and $151 for the six months ended June 30, 2019 and 2018 , respectively.

Our effective tax rate for the three months ended June 30, 2019 and 2018 was 22.4% and 19.4% , respectively. Our effective tax rate for the six months ended June 30, 2019 and 2018 was 27.0% and 20.6% , respectively. The effective tax rate for the six months ended June 30, 2019 was primarily impacted by the increase to the valuation allowance related to the federal research and development credits that are no longer expected to be realizable. The effective tax rate for the three and six months ended June 30, 2018 was primarily impacted by the recognition of excess tax benefits related to share based compensation. We estimate our effective tax rate for the year ending December 31, 2019 will be approximately 23% .

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As of June 30, 2019 and December 31, 2018 , we had a valuation allowance related to deferred tax assets of $88 and $66 , respectively, that were not likely to be realized due to certain net operating loss limitations, including tax credits, and acquired net operating losses that were not more likely than not going to be utilized.

(18) Subsequent Events

Debt Transactions

On July 2, 2019, Sirius XM issued $1,500 in aggregate principal amount of 4.625% Notes due 2024 (the " 4.625% Notes"). Interest is payable semi-annually in arrears on January 15 and July 15, commencing on January 15, 2020. The 4.625% Notes will mature on July 15, 2024. All material domestic subsidiaries, including Pandora and its subsidiaries, that guarantee the Credit Facility have guaranteed the 4.625% Notes. The 4.625% Notes have substantially similar covenants and restrictions as Sirius XM's other outstanding notes. For a description of these covenants and restrictions, refer to Note 12.

On June 18, 2019, Sirius XM issued a redemption notice pursuant to the indenture governing the 6.00% Notes to redeem all of its $1,500 aggregate principal amount of outstanding 6.00% Notes. The 6.00% Notes were redeemed on July 18, 2019 at a redemption price of 103.0% of the principal amount thereof plus accrued and unpaid interest thereon to, but excluding, the date of redemption. This redemption will result in a Loss on extinguishment of debt and credit facilities, net, of approximately $56 in the third quarter of 2019.

Capital Return Program

For the period from July 1, 2019 to July 26, 2019 we repurchased 44 shares of our common stock on the open market for an aggregate purchase price of $264 , including fees and commissions.

On July 16, 2019 , our board of directors declared a quarterly dividend on our common stock in the amount of $0.0121 per share of common stock payable on August 30, 2019 to stockholders of record as of the close of business on August 9, 2019 .

ITEM 2. MANAGEMENT'S DISCUSSION AND ANALYSIS OF FINANCIAL CONDITION AND RESULTS OF OPERATIONS

All amounts referenced in this Item 2 are in millions, except subscriber amounts are in thousands and per subscriber and per installation amounts are in ones, unless otherwise stated.

The following discussion and analysis of our financial condition and results of operations should be read in conjunction with our unaudited consolidated financial statements and related notes included elsewhere in this Quarterly Report on Form 10-Q and with our Annual Report on Form 10-K for the year ended December 31, 2018 .

This Quarterly Report on Form 10-Q presents information for Sirius XM Holdings Inc. ("Holdings"). The terms "Holdings," "we," "us," "our," and "our company" as used herein, and unless otherwise stated or indicated by context, refer to Sirius XM Holdings Inc. and its subsidiaries. "Sirius XM" refers to our wholly owned subsidiary Sirius XM Radio Inc. and its subsidiaries. "Pandora" refers to Sirius XM's wholly owned subsidiary Pandora Media, LLC (the successor to Pandora Media, Inc.) and its subsidiaries. Holdings has no operations independent of Sirius XM and Pandora.

Special Note Regarding Forward-Looking Statements

The following cautionary statements identify important factors that could cause our actual results to differ materially from those projected in forward-looking statements made in this Quarterly Report on Form 10-Q and in other reports and documents published by us from time to time. Any statements about our beliefs, plans, objectives, expectations, assumptions, future events or performance are not historical facts and may be forward-looking. These statements are often, but not always, made through the use of words or phrases such as "will likely result," "are expected to," "will continue," "is anticipated," "estimated," "intend," "plan," "projection" and "outlook." Any forward-looking statements are qualified in their entirety by reference to the factors discussed throughout this Quarterly Report on Form 10-Q and in other reports and documents published by us from time to time, including the risk factors described under "Risk Factors" in Part II, Item 1A, of our Quarterly Report on Form 10-Q for the quarter ended March 31, 2019 and "Management's Discussion and Analysis of Financial Condition and Results of Operations" herein and in Part II, Item 7, of our Annual Report on Form 10-K for the year ended December 31, 2018 .

Among the significant factors that could cause our actual results to differ materially from those expressed in the forward-looking statements are:

- We face substantial competition and that competition is likely to increase over time
- If our efforts to attract and retain subscribers and listeners, or convert listeners into subscribers, are not successful, our business will be adversely affected
- We engage in extensive marketing efforts and the continued effectiveness of those efforts are an important part of our business
- A substantial number of our subscribers periodically cancel their subscriptions and we cannot predict how successful we will be at retaining customers
- Our ability to profitably attract and retain subscribers as our marketing efforts reach more price-sensitive consumers is uncertain
- Our failure to convince advertisers of the benefits of our ad-supported service could harm our business
- If we are unable to maintain revenue growth from our advertising products, particularly in mobile advertising, our results of operations will be adversely affected
- If we fail to accurately predict and play music, comedy or other content that our listeners enjoy, we may fail to retain existing and attract new listeners
- If we fail to protect the security of personal information about our customers, we could be subject to costly government enforcement actions and private litigation and our reputation could suffer
- Interruption or failure of our information technology and communications systems could impair the delivery of our service and harm our business
- Privacy and data security laws and regulations may impose legal liabilities and may hinder our ability to sell advertising
- Consumer protection laws and our failure to comply with them could damage our business
- We rely on third parties for the operation of our business, and the failure of third parties to perform could adversely affect our business
- Our business depends in part upon the auto industry
- Our Pandora business depends in part upon consumer electronics manufacturers
- The market for music rights is changing and is subject to significant uncertainties
- Our ability to offer interactive features in our Pandora services depends upon maintaining licenses with copyright owners

- The rates we must pay for "mechanical rights" to use musical works on our Pandora service have increased substantially and these new rates may adversely affect our business
- Our use of pre-1972 sound recordings on our Pandora service could result in additional costs
- Failure of our satellites would significantly damage our business
- Our Sirius XM service may experience harmful interference from new wireless operations
- Failure to comply with FCC requirements could damage our business
- Economic conditions, including advertising budgets and discretionary spending, may adversely affect our business and operating results
- If we are unable to attract and retain qualified personnel, our business could be harmed
- We may not realize the benefits of acquisitions or other strategic investments and initiatives, including the acquisition of Pandora
- We may from time to time modify our business plan, and these changes could adversely affect us and our financial condition
- We have a significant amount of indebtedness, and our debt contains certain covenants that restrict our operations
- Our facilities could be damaged by natural catastrophes or terrorist activities
- The unfavorable outcome of pending or future litigation could have an adverse impact on our operations and financial condition
- Failure to protect our intellectual property or actions by third parties to enforce their intellectual property rights could substantially harm our business and operating results
- Some of our services and technologies may use "open source" software, which may restrict how we use or distribute our services or require that we release the source code subject to those licenses
- Rapid technological and industry changes and new entrants could adversely impact our services
- Existing or future laws and regulations could harm our business
- We may be exposed to liabilities that other entertainment service providers would not customarily be subject to
- Our business and prospects depend on the strength of our brands
- We are a "controlled company" within the meaning of the NASDAQ listing rules and, as a result, qualify for, and rely on, exemptions from certain corporate governance requirements
- While we currently pay a quarterly cash dividend to holders of our common stock, we may change our dividend policy at any time
- Our principal stockholder has significant influence, including over actions requiring stockholder approval, and its interests may differ from the interests of other holders of our common stock

Because the risk factors referred to above could cause actual results or outcomes to differ materially from those expressed in any forward-looking statements made by us or on our behalf, you should not place undue reliance on any of these forward-looking statements. In addition, any forward-looking statement speaks only as of the date on which it is made, and we undertake no obligation to update any forward-looking statement or statements to reflect events or circumstances after the date on which the statement is made, to reflect the occurrence of unanticipated events or otherwise, except as required by law. New factors emerge from time to time, and it is not possible for us to predict which will arise or to assess with any precision the impact of each factor on our business or the extent to which any factor, or combination of factors, may cause actual results to differ materially from those contained in any forward-looking statements.

Recent Developments

On February 1, 2019, through a series of transactions, Pandora Media, Inc., became an indirect wholly owned subsidiary of Sirius XM and continues to operate as Pandora Media, LLC (the "Pandora Acquisition").

Each share of Pandora common stock, par value $0.0001 per share, outstanding immediately prior to the consummation of the transactions, was converted into 1.44 shares (the "Exchange Ratio") of our common stock.

Further, pursuant to the transactions:

- Each option granted by Pandora under its stock incentive plans to purchase shares of Pandora common stock, whether vested or unvested, was assumed and converted into an option to purchase shares of our common stock, with appropriate adjustments (based on the Exchange Ratio) to the exercise price and number of shares of our common stock subject to such option, and has the same vesting schedule and exercise conditions as in effect as of immediately prior to the closing of the transactions; provided that any Pandora stock option that had an exercise price per share that was equal to or greater than the value, at the closing of the transactions, of our common stock issued as merger consideration in exchange for each share of Pandora common stock, was canceled without payment therefore; and

- Each unvested restricted stock unit granted by Pandora under its stock incentive plans was assumed and converted into an unvested restricted stock unit of Holdings, with appropriate adjustments (based on the Exchange Ratio) to the number of shares of our common stock to be received, and has the same vesting schedule and settlement date as in effect as of immediately prior to the closing of the transactions.

In connection with the transaction, Holdings issued in the aggregate 392 shares of its common stock and assumed $345 in aggregate principal amount of Pandora's outstanding debt.

Executive Summary

We operate two complementary audio entertainment businesses - our Sirius XM business and our Pandora business.

Sirius XM

Our Sirius XM business features music, sports, entertainment, comedy, talk, news, traffic and weather channels, as well as infotainment services, in the United States on a subscription fee basis. The Sirius XM service is distributed through our two proprietary satellite radio systems and through the internet via applications for mobile devices, home devices and other consumer electronic equipment. Satellite radios are primarily distributed through automakers, retailers and our website. Our Sirius XM service is also available through our user interface, which we call "360L," that combines our satellite and streaming services into a single, cohesive in-vehicle entertainment experience. The primary source of revenue from our Sirius XM business is generated from subscription fees, with most of our customers subscribing to monthly, quarterly, semi-annual or annual plans. We also derive revenue from advertising on select non-music channels, direct sales of our satellite radios and accessories, and other ancillary services. As of June 30, 2019 , our Sirius XM business had approximately 34.3 million subscribers.

In addition to our audio entertainment businesses, we provide connected vehicle services to several automakers and directly to consumers through aftermarket devices. These services are designed to enhance the safety, security and driving experience of consumers. We also offer a suite of data services that includes graphical weather, fuel prices, sports schedules and scores and movie listings, a traffic information service that includes information as to road closings, traffic flow and incident data to consumers with compatible in-vehicle navigation systems, and real-time weather services designed for improving situational awareness in vehicles, boats and planes.

Sirius XM also holds a 70% equity interest and 33% voting interest in Sirius XM Canada Holdings Inc. ("Sirius XM Canada"). Sirius XM Canada's subscribers are not included in our subscriber count or subscriber-based operating metrics.

Pandora

Our Pandora business operates a music, comedy and podcast streaming discovery platform, offering a personalized experience for each listener wherever and whenever they want to listen, whether through mobile devices, car speakers or connected devices in the home. Pandora enables listeners to create personalized stations and playlists, discover new content, hear artist- and expert-curated playlists, podcasts and select Sirius XM content as well as search and play songs and albums on-demand. Pandora is available as an ad-supported radio service, a radio subscription service, called Pandora Plus, and an on-demand subscription service, called Pandora Premium. As of June 30, 2019 , Pandora had approximately 7.0 million subscribers. The majority of revenue from our Pandora business is generated from advertising on our Pandora ad-supported radio service. In addition, as a result of the May 2018 acquisition of AdsWizz Inc. by Pandora, we provide a comprehensive digital audio advertising technology platform, which connects audio publishers and advertisers. As of June 30, 2019 , our Pandora business had approximately 64.9 million active users.

Liberty Media

As of June 30, 2019 , Liberty Media beneficially owned, directly and indirectly, approximately 70% of the outstanding shares of our common stock. As a result, we are a "controlled company" for the purposes of the NASDAQ corporate governance requirements.

Presentation

This Quarterly Report on Form 10-Q for the three and six months ended June 30, 2019 , includes our unaudited results compared with the three and six months ended June 30, 2018 . The discussion of our results of operations for the three and six months ended June 30, 2019 includes the financial results of Pandora from February 1, 2019, the date of the Pandora Acquisition, while the results of operations for the three and six months ended June 30, 2018 do not include the results of Pandora since that was prior to the Pandora Acquisition. We also include unaudited information on the revenues and costs of services of each of our segments compared with the three and six months ended June 30, 2018 . The absence of the Pandora results for January 2019 and from the three and six months ended June 30, 2018 may render the comparison of the unaudited actual results for the three and six months ended June 30, 2019 to the prior period less meaningful.

We have also included in this Quarterly Report on Form 10-Q for the three and six months ended June 30, 2019 *pro forma* unaudited results compared with the three and six months ended June 30, 2018 . We also include *pro forma* unaudited information on the revenues and costs of sales of each of our segments compared with the three and six months ended June 30, 2018 . These *pro forma* results assume that the Pandora Acquisition occurred on January 1, 2018 and eliminate the effect of certain purchase accounting adjustments associated with the Pandora Acquisition.

We have also included in this Quarterly Report on Form 10-Q certain financial performance measures for our company as well as for our Sirius XM and our Pandora businesses, when applicable, some of which are not calculated and presented in accordance with generally accepted accounting principles in the United States (“Non-GAAP”). These Non-GAAP items include free cash flow and adjusted EBITDA. We also present certain operating performance measures. These financial and operating performance measures are also presented on a *pro forma* basis and assume that the Pandora Acquisition occurred on January 1, 2018 and eliminate the effect of certain purchase accounting adjustments associated with the Pandora Acquisition. See “Key Financial and Operating Performance Metrics,” for more information on these performance measures.

Results of Operations

Unaudited Actual Results

Set forth below are our results of operations for the three and six months ended June 30, 2019 compared with the three and six months ended June 30, 2018 . The inclusion of Pandora's results in the three and six months ended June 30, 2019 (since the date of the Pandora acquisition of February 1, 2019) may render direct comparisons with results for prior periods less meaningful. The results of operations are presented for each of our reporting segments for revenue and cost of services and on a consolidated basis for all other items.

	For the Three Months Ended June 30,		For the Six Months Ended June 30,		2019 vs 2018 Change			
					Three Months		Six Months	
	2019	2018	2019	2018	Amount	%	Amount	%
Revenue								
Sirius XM:								
Subscriber revenue	$ 1,402	$ 1,304	$ 2,772	$ 2,562	$ 98	8 %	$ 210	8 %
Advertising revenue	52	47	98	89	5	11 %	9	10 %
Equipment revenue	41	37	82	72	4	11 %	10	14 %
Other revenue	41	44	77	84	(3)	(7)%	(7)	(8)%
Total Sirius XM revenue	1,536	1,432	3,029	2,807	104	7 %	222	8 %
Pandora:								
Subscriber revenue	135	—	223	—	135	nm	223	nm
Advertising revenue	306	—	469	—	306	nm	469	nm
Total Pandora revenue	441	—	692	—	441	nm	692	nm
Total consolidated revenue	1,977	1,432	3,721	2,807	545	38 %	914	33 %
Cost of services								
Sirius XM:								
Revenue share and royalties	360	404	707	714	(44)	(11)%	(7)	(1)%
Programming and content	113	106	215	207	7	7 %	8	4 %
Customer service and billing	99	95	197	189	4	4 %	8	4 %
Transmission	25	24	50	46	1	4 %	4	9 %
Cost of equipment	6	8	12	15	(2)	(25)%	(3)	(20)%
Total Sirius XM cost of services	603	637	1,181	1,171	(34)	(5)%	10	1 %
Pandora:								
Revenue share and royalties	240	—	385	—	240	nm	385	nm
Programming and content	3	—	7	—	3	nm	7	nm
Customer service and billing	21	—	36	—	21	nm	36	nm
Transmission	15	—	21	—	15	nm	21	nm
Total Pandora cost of services	279	—	449	—	279	nm	449	nm
Total consolidated cost of services	882	637	1,630	1,171	245	38 %	459	39 %
Subscriber acquisition costs	104	120	212	243	(16)	(13)%	(31)	(13)%
Sales and marketing	232	119	415	226	113	95 %	189	84 %
Engineering, design and development	74	27	128	58	47	174 %	70	121 %
General and administrative	120	92	255	177	28	30 %	78	44 %
Depreciation and amortization	119	75	226	147	44	59 %	79	54 %
Acquisition and other related costs	7	—	83	—	7	nm	83	nm
Total operating expenses	1,538	1,070	2,949	2,022	468	44 %	927	46 %
Income from operations	439	362	772	785	77	21 %	(13)	(2)%
Other (expense) income:								
Interest expense	(97)	(86)	(187)	(176)	(11)	(13)%	(11)	(6)%
Loss on extinguishment of debt	—	—	(1)	—	—	nm	(1)	nm
Other (expense) income	(3)	88	(2)	124	(91)	nm	(126)	(102)%
Total other (expense) income	(100)	2	(190)	(52)	(102)	nm	(138)	nm
Income before income taxes	339	364	582	733	(25)	(7)%	(151)	(21)%
Income tax expense	(76)	(71)	(157)	(151)	(5)	(7)%	(6)	(4)%
Net income	$ 263	$ 293	$ 425	$ 582	$ (30)	(10)%	$ (157)	(27)%

nm - not meaningful

Sirius XM Revenue

Refer to page 44 for our discussion on Sirius XM revenue.

Pandora Revenue

Pandora revenue includes actual results for the period from the acquisition date to June 30, 2019 . Refer to page 44 for our discussion on Pandora revenue.

Sirius XM Cost of Services

Refer to page 45 for our discussion on Sirius XM cost of services.

Pandora Cost of Services

Pandora cost of services includes actual results for the period from the acquisition date to June 30, 2019 . Refer to page 46 for our discussion on Pandora cost of services.

Operating Costs

Subscriber Acquisition Costs are costs only associated with our satellite radio and connected vehicle services and include hardware subsidies paid to radio manufacturers, distributors and automakers; subsidies paid for chipsets and certain other components used in manufacturing radios; device royalties for certain radios and chipsets; product warranty obligations; and freight. The majority of subscriber acquisition costs are incurred and expensed in advance of acquiring a subscriber. Subscriber acquisition costs do not include advertising costs, marketing, loyalty payments to distributors and dealers of satellite radios or revenue share payments to automakers and retailers of satellite radios.

For the three months ended June 30, 2019 and 2018 , subscriber acquisition costs were $104 and $120 , respectively, a decrease of 13% , or $16 , and decreased as a percentage of total revenue. For the six months ended June 30, 2019 and 2018 , subscriber acquisition costs were $212 and $243 , respectively, a decrease of 13% or $31 , and decreased as a percentage of total revenue. The decreases were driven by reductions to OEM hardware subsidy rates, lower subsidized costs related to the transition of chipsets, and a decrease in the volume of satellite radio installations.

We expect subscriber acquisition costs to fluctuate with OEM installations; however, the subsidized chipsets cost is expected to decline as we transition to a new generation of chipsets. We intend to continue to offer subsidies and other incentives to induce OEMs to include our technology in their vehicles.

Sales and Marketing includes costs for marketing, advertising, media and production, including promotional events and sponsorships; cooperative marketing; and personnel related costs including salaries, commissions, and sales support. Marketing costs include expenses related to direct mail, outbound telemarketing, email communications, and artist marketing.

For the three months ended June 30, 2019 and 2018 , sales and marketing expenses were $232 and $119 , respectively, an increase of 95% , or $113 , and increased as a percentage of total revenue. For the six months ended June 30, 2019 and 2018 , sales and marketing expenses were $415 and $226 , respectively, an increase and of 84% , or $189 , and increased as a percentage of total revenue. The increases were primarily due to the inclusion of Pandora, additional subscriber communications, retention programs and acquisition campaigns.

We anticipate that sales and marketing expenses will increase as we expand programs to retain our existing subscribers, win back former subscribers, and attract new subscribers and listeners.

Engineering, Design and Development consists primarily of compensation and related costs to develop chipsets and new products and services, including streaming and connected vehicle services, research and development for broadcast information systems and the design and development costs to incorporate Sirius XM radios into new vehicles manufactured by automakers.

For the three months ended June 30, 2019 and 2018 , engineering, design and development expenses were $74 and $27 , respectively, an increase of 174% , or $47 , and increased as a percentage of total revenue. For the six months ended

June 30, 2019 and 2018 , engineering, design and development expenses were $128 and $58 , respectively, an increase of 121% , or $70 , and increased as a percentage of total revenue. The increases were driven by the inclusion of Pandora.

We expect engineering, design and development expenses to increase in future periods as we continue to develop our infrastructure, products and services.

General and Administrative primarily consists of compensation and related costs for personnel and facilities, and include costs related to our finance, legal, human resources and information technologies departments.

For the three months ended June 30, 2019 and 2018 , general and administrative expenses were $120 and $92 , respectively, an increase of 30% , or $28 , but decreased as a percentage of total revenue. For the six months ended June 30, 2019 and 2018 , general and administrative expenses were $255 and $177 , respectively, an increase of 44% , or $78 , and increased as a percentage of total revenue. The increase for the three month period was primarily driven by the inclusion of Pandora. The increase for the six month period was primarily driven by the inclusion of Pandora and by a one-time $25 legal settlement reserve for Do-Not-Call litigation.

We expect our general and administrative expenses to increase to support the growth of our business.

Depreciation and Amortization represents the recognition in earnings of the cost of assets used in operations, including our satellite constellations, property, equipment and intangible assets, over their estimated service lives.

For the three months ended June 30, 2019 and 2018 , depreciation and amortization expense was $119 and $75 , respectively, an increase of 59% , or $44 , and increased as a percentage of total revenue. For the six months ended June 30, 2019 and 2018 , depreciation and amortization expense was $226 and $147 , respectively, an increase of 54% , or $79 , and increased as a percentage of total revenue. The increases were driven by the amortization of definite life intangibles resulting from the Pandora Acquisition and higher depreciation costs related to additional assets placed in-service.

Acquisition and Other Related Costs represents expenses associated with the Pandora Acquisition and related reorganization costs.

For the three and six months ended June 30, 2019 acquisition and other related costs were $7 and $83 , respectively. There were no acquisition and other related costs in 2018.

Other (Expense) Income

Interest Expense includes interest on outstanding debt.

For the three months ended June 30, 2019 and 2018 , interest expense was $97 and $86 , respectively. For the six months ended June 30, 2019 and 2018 , interest expense was $187 and $176 , respectively. The increases were primarily driven by higher average debt due to the issuance of the 5.500% Senior Notes due 2029 and the inclusion of Pandora debt instruments partially offset by an increase in the amount of capitalized interest due to spend on the construction of new satellites.

Loss on Extinguishment of Debt includes losses incurred as a result of the redemption of certain debt.

We recorded a $0 and $1 loss on extinguishment of debt during the three and six months ended June 30, 2019 , respectively. The loss for the six month period was due to the repurchase of $151 principal amount of Pandora's 1.75% Convertible Senior Notes due 2020. There was no loss on extinguishment of debt during the three and six months ended June 30, 2018 .

Other (Expense) Income primarily includes realized and unrealized gains and losses, interest and dividend income, our share of the income or loss from our equity investments, and transaction costs related to non-operating investments.

For the three months ended June 30, 2019 and 2018 , other (expense) income was $(3) and $88 , respectively. For the six months ended June 30, 2019 and 2018 , other (expense) income was $(2) and $124 , respectively. For the three and six months ended June 30, 2019 , we recorded our share of Sirius XM Canada's net loss and losses on other investments, partially offset by interest earned on our loan to Sirius XM Canada and trading gains associated with the investments held for our Deferred Compensation Plan. For the three and six months ended June 30, 2018, other income was driven

by unrealized gains of $86 and $117 from a fair value adjustment of our investment in Pandora, respectively, and interest earned on our loan to Sirius XM Canada.

Income Taxes

Income Tax Expense includes the change in our deferred tax assets, current federal and state tax expenses, and foreign withholding taxes.

For the three months ended June 30, 2019 and 2018 , income tax expense was $76 and $71 , respectively, and $157 and $151 for the six months ended June 30, 2019 and 2018 , respectively.

Our effective tax rate for the three months ended June 30, 2019 and 2018 was 22.4% and 19.4% , respectively. Our effective tax rate for the six months ended June 30, 2019 and 2018 was 27.0% and 20.6% , respectively. The effective tax rate for the six months ended June 30, 2019 was primarily impacted by the increase to the valuation allowance related to the federal research and development credits that are no longer expected to be realizable. The effective tax rate for the three and six months ended June 30, 2018 was primarily impacted by the recognition of excess tax benefits related to share based compensation. We estimate our effective tax rate for the year ending December 31, 2019 will be approximately 23% .

Additionally, in connection with the Pandora Acquisition, we acquired gross net operating loss (“NOL”) carryforwards of approximately $1,199 for federal income tax purposes available to offset future taxable income. The acquired NOL's are limited annually by Section 382 of the Internal Revenue Code but we expect to fully utilize those NOL's within the carryforward period.

Unaudited Pro Forma Results

Set forth below are our pro forma results of operations for the three and six months ended June 30, 2019 compared with the three and six months ended June 30, 2018 . These pro forma results are based on estimates and assumptions, which we believe are reasonable. They are not the results that would have been realized had the Pandora Acquisition actually occurred on January 1, 2018 and are not indicative of our consolidated results of operations in future periods. The pro forma results primarily include adjustments related to amortization of acquired intangible assets, depreciation of property and equipment, acquisition costs and associated tax impacts. Please refer to the Footnotes to Results of Operations (pages 49 through 54) following our discussion of results of operations.

	For the Three Months Ended June 30,		For the Six Months Ended June 30,		2019 vs 2018 Change			
					Three Months		Six Months	
	2019	2018	2019	2018	Amount	%	Amount	%
Revenue	(Pro Forma)	(Pro Forma)	(Pro Forma)	(Pro Forma)				
Sirius XM:								
Subscriber revenue	$ 1,402	$ 1,304	$ 2,772	$ 2,562	$ 98	8 %	$ 210	8 %
Advertising revenue	52	47	98	89	5	11 %	9	10 %
Equipment revenue	41	37	82	72	4	11 %	10	14 %
Other revenue	43	46	81	89	(3)	(7)%	(8)	(9)%
Total Sirius XM revenue	1,538	1,434	3,033	2,812	104	7 %	221	8 %
Pandora:								
Subscriber revenue	135	114	269	218	21	18 %	51	23 %
Advertising revenue	306	271	537	486	35	13 %	51	10 %
Total Pandora revenue	441	385	806	704	56	15 %	102	14 %
Total consolidated revenue	1,979	1,819	3,839	3,516	160	9 %	323	9 %
Cost of services								
Sirius XM:								
Revenue share and royalties	360	404	707	714	(44)	(11)%	(7)	(1)%
Programming and content	113	106	215	207	7	7 %	8	4 %
Customer service and billing	99	95	197	189	4	4 %	8	4 %
Transmission	25	24	50	46	1	4 %	4	9 %
Cost of equipment	6	8	12	15	(2)	(25)%	(3)	(20)%
Total Sirius XM cost of services	603	637	1,181	1,171	(34)	(5)%	10	1 %
Pandora:								
Revenue share and royalties	246	236	463	458	10	4 %	5	1 %
Programming and content	3	2	7	4	1	50 %	3	75 %
Customer service and billing	21	24	44	44	(3)	(13)%	—	— %
Transmission	15	12	26	24	3	25 %	2	8 %
Total Pandora cost of services	285	274	540	530	11	4 %	10	2 %
Total consolidated cost of services	888	911	1,721	1,701	(23)	(3)%	20	1 %
Subscriber acquisition costs	104	120	212	243	(16)	(13)%	(31)	(13)%
Sales and marketing	232	217	451	423	15	7 %	28	7 %
Engineering, design and development	74	64	142	126	10	16 %	16	13 %
General and administrative	120	133	271	262	(13)	(10)%	9	3 %
Depreciation and amortization	119	116	241	229	3	3 %	12	5 %
Total operating expenses	1,537	1,561	3,038	2,984	(24)	(2)%	54	2 %
Income from operations	442	258	801	532	184	71 %	269	51 %
Other (expense) income:								
Interest expense	(97)	(93)	(189)	(190)	4	4 %	(1)	(1)%
Loss on extinguishment of debt	—	(15)	(1)	(17)	(15)	(100)%	(16)	(94)%
Other (expense) income	(3)	4	(1)	11	(7)	(175)%	(12)	(109)%
Total other (expense) income	(100)	(104)	(191)	(196)	(4)	(4)%	5	3 %
Income before income taxes	342	154	610	336	188	122 %	274	82 %
Income tax expense	(77)	(11)	(164)	(45)	(66)	(600)%	(119)	(264)%
Net income	$ 265	$ 143	446	291	$ 122	85 %	$ 155	53 %
Adjusted EBITDA	$ 618	$ 507	$ 1,184	$ 954	$ 111	22 %	$ 230	24 %

Sirius XM Revenue

Sirius XM Subscriber Revenue includes self-pay and paid promotional subscriptions, U.S. Music Royalty Fees and other ancillary fees.

For the three months ended June 30, 2019 and 2018 , subscriber revenue was $1,402 and $1,304 , respectively, an increase of 8% , or $98 . For the six months ended June 30, 2019 and 2018 , subscriber revenue was $2,772 and $2,562 , respectively, an increase of 8% , or $210 . The increases were primarily driven by higher U.S. Music Royalty Fees due to a higher music royalty rate and higher self-pay subscription revenue as a result of a 3% increase in the daily weighted average number of subscribers.

We expect subscriber revenues to increase based on the growth of our subscriber base, increases in the average price charged and the sale of additional services to subscribers.

Sirius XM Advertising Revenue includes the sale of advertising on Sirius XM's non-music channels.

For the three months ended June 30, 2019 and 2018 , advertising revenue was $52 and $47 , respectively, an increase of 11% , or $5 . For the six months ended June 30, 2019 and 2018 , advertising revenue was $98 and $89 , respectively, an increase of 10% , or $9 . The increases were primarily due to increases in rates charged per spot as well as a greater number of advertising spots sold and transmitted.

We expect our Sirius XM advertising revenue to continue to grow as more advertisers are attracted to our national platform and growing subscriber base and as we launch additional non-music channels.

Sirius XM Equipment Revenue includes revenue and royalties from the sale of satellite radios, components and accessories.

For the three months ended June 30, 2019 and 2018 , equipment revenue was $41 and $37 , respectively, an increase of 11% , or $4 . For the six months ended June 30, 2019 and 2018 , equipment revenue was $82 and $72 , respectively, an increase of 14% , or $10 . The increases were driven by an increase in royalty revenue due to our transition to a new generation of chipsets.

We expect equipment revenue to increase as royalty revenue associated with certain new chipsets increases.

Sirius XM Other Revenue includes service and advisory revenue from our Canadian affiliate, our connected vehicle services, and ancillary revenues.

For the three months ended June 30, 2019 and 2018 , other revenue was $43 and $46 , respectively, a decrease of 7% , or $3 . For the six months ended June 30, 2019 and 2018 , other revenue was $81 and $89 , respectively, a decrease of 9% , or $8 . The decreases were primarily driven by a decrease in data usage revenue generated from our connected vehicle services.

We expect other revenue to increase due to additional revenues generated from our Canadian affiliate and from our connected vehicle services.

Pandora Revenue

Pandora Subscriber Revenue includes fees charged for Pandora Plus and Pandora Premium subscriptions.

For the three months ended June 30, 2019 and 2018 , Pandora subscriber revenue was $135 and $114 , respectively, an increase of 18% , or $21 . For the six months ended June 30, 2019 and 2018 , Pandora subscriber revenue was $269 and $218 , respectively, an increase of 23% , or $51 . The increases were primarily due to an increase in the number of Pandora Plus and Pandora Premium subscribers.

We expect Pandora subscriber revenues to increase based on the growth of our Pandora Plus and Pandora Premium subscriber base.

Pandora Advertising Revenue is generated primarily from audio, display and video advertising.

For the three months ended June 30, 2019 and 2018 , Pandora advertising revenue was $306 and $271 , respectively, an increase of 13% , or $35 . For the six months ended June 30, 2019 and 2018 , Pandora advertising revenue was $537 and $486 , respectively, an increase of 10% , or $51 . The increases were primarily due to increased sell-through, growth in our off-platform revenue, and revenue growth in the AdsWizz business.

We expect our advertising revenue to continue to increase due to the growth in our off-platform revenue.

Total Consolidated Revenue

Total Consolidated Revenue for the three months ended June 30, 2019 and 2018 , was $1,979 and $1,819 , respectively, an increase of 9% , or $160 . Total Consolidated Revenue for the six months ended June 30, 2019 and 2018 , was $3,839 and $3,516 , respectively, an increase of 9% , or $323 .

Sirius XM Cost of Services

Sirius XM Cost of Services includes revenue share and royalties, programming and content, customer service and billing and transmission expenses.

Sirius XM Revenue Share and Royalties include royalties for transmitting content and web streaming as well as automaker, content provider and advertising revenue share.

For the three months ended June 30, 2019 and 2018 , revenue share and royalties were $360 and $404 , respectively, a decrease of 11% , or $44 , and decreased as a percentage of total Sirius XM revenue. For the six months ended June 30, 2019 and 2018 , revenue share and royalties were $707 and $714 , respectively, a decrease of 1% , or $7 , and decreased as a percentage of total Sirius XM revenue. The decreases were driven by a $69 charge in 2018 related to the legal settlement that resolved all outstanding claims, including ongoing audits, under Sirius XM's statutory license for sound recordings for the period January 1, 2007 through December 31, 2017, partially offset by overall greater revenues subject to royalties and revenue share.

We expect our revenue share and royalty costs to increase as our revenues grow.

Sirius XM Programming and Content includes costs to acquire, create, promote and produce content. We have entered into various agreements with third parties for music and non-music programming that require us to pay license fees and other amounts.

For the three months ended June 30, 2019 and 2018 , programming and content expenses were $113 and $106 , respectively, an increase of 7% , or $7 , but decreased as a percentage of total Sirius XM revenue. For the six months ended June 30, 2019 and 2018 , programming and content expenses were $215 and $207 , respectively, an increase of 4% , or $8 , but decreased as a percentage of total Sirius XM revenue. The increases were primarily driven by higher content licensing costs.

We expect our Sirius XM programming and content expenses to increase as we offer additional programming, and renew or replace expiring agreements.

Sirius XM Customer Service and Billing includes costs associated with the operation and management of internal and third party customer service centers, and our subscriber management systems as well as billing and collection costs, bad debt expense, and transaction fees.

For the three months ended June 30, 2019 and 2018 , customer service and billing expenses were $99 and $95 , respectively, an increase of 4% , or $4 , but decreased as a percentage of total Sirius XM revenue. For the six months ended June 30, 2019 and 2018 , customer service and billing expenses were $197 and $189 , respectively, an increase of 4% , or $8 , but decreased as a percentage of total Sirius XM revenue. The increases were driven by increased transaction fees from a larger subscriber base and higher bad debt expense, partially offset by lower call center costs due to lower agent rates.

We expect our Sirius XM customer service and billing expenses to increase as our subscriber base grows.

Sirius XM Transmission consists of costs associated with the operation and maintenance of our terrestrial repeater networks; satellites; satellite telemetry, tracking and control systems; satellite uplink facilities; studios; and delivery of our Internet streaming and connected vehicle services.

For the three months ended June 30, 2019 and 2018 , transmission expenses were $25 and $24 , respectively, an increase of 4% , or $1 , but decreased as a percentage of total Sirius XM revenue. For the six months ended June 30, 2019 and 2018 , transmission expenses were $50 and $46 , respectively, an increase of 9% , or $4 , and increased as a percentage of total Sirius XM revenue. The increases were primarily driven by higher cloud hosting and wireless costs associated with our streaming services and higher repeater network costs.

We expect transmission expenses to increase as costs associated with our investment in Internet streaming grow.

Sirius XM Cost of Equipment includes costs from the sale of satellite radios, components and accessories and provisions for inventory allowance attributable to products purchased for resale in our direct to consumer distribution channels.

For the three months ended June 30, 2019 and 2018 , cost of equipment was $6 and $8 , respectively, a decrease of 25% , or $2 , and decreased as a percentage of equipment revenue. For the six months ended June 30, 2019 and 2018 , cost of equipment was $12 and $15 , respectively, a decrease of 20% , or $3 , and decreased as a percentage of equipment revenue. The decreases were primarily due to lower direct sales to satellite radio and connected vehicle consumers.

We expect cost of equipment to fluctuate with the sales of our satellite radios and connected vehicle devices.

Pandora Cost of Services

Pandora Cost of Services includes revenue share and royalties, programming and content, customer service and billing, and transmission expenses.

Pandora Revenue Share and Royalties includes licensing fees paid for streaming music or other content to our subscribers and listeners as well as revenue share paid to third party ad servers. We make payments to third party ad servers for the period the advertising impressions are delivered or click-through actions occur, and accordingly, we record this as a cost of service in the related period.

For the three months ended June 30, 2019 and 2018 , revenue share and royalties were $246 and $236 , respectively, an increase of 4% , or $10 , but decreased as a percentage of total Pandora revenue. For the six months ended June 30, 2019 and 2018 , revenue share and royalties were $463 and $458 , respectively, an increase of 1% , or $5 , but decreased as a percentage of total Pandora revenue. The increases were primarily attributable higher revenue share driven by overall greater revenues subject to revenue share, partially offset by lower costs resulting from renegotiated direct license agreements with major and independent labels, distributors, PROs and publishers.

We expect our Pandora revenue share and royalty costs to decrease as a result of renegotiated direct license agreements.

Pandora Programming and Content includes costs to produce live listener events and promote content.

For the three months ended June 30, 2019 and 2018 , programming and content expenses were $3 and $2 , an increase of 50% , or $1 , and increased as a percentage of total Pandora revenue. For the six months ended June 30, 2019 and 2018 , programming and content expenses were $7 and $4 , an increase of 75% , or $3 , and increased as a percentage of total Pandora revenue. The increases were primarily attributable to costs associated with the promotion of content.

We expect our Pandora programming and content costs to increase as we continue to produce live listener events and promotions.

Pandora Customer Service and Billing includes transaction fees on subscription purchases through mobile app stores, and bad debt expense.

For the three months ended June 30, 2019 and 2018 , customer service and billing expenses were $21 and $24 , respectively, a decrease of 13% , or $3 , and decreased as a percentage of total Pandora revenue. For both the six months ended June 30, 2019 and 2018 , customer service and billing expenses were $44 , and decreased as a percentage of total Pandora revenue. The decrease for the three month period was primarily driven by bad debt recoveries. For the six month period, lower bad debt expense was offset by increased transaction fees from a larger user base.

We expect our Pandora customer service and billing costs to increase as our subscriber base grows.

Pandora Transmission includes costs associated with content streaming, maintaining our streaming radio and on-demand subscription services and creating and serving advertisements through third-party ad servers.

For the three months ended June 30, 2019 and 2018 , transmission expenses were $15 and $12 , respectively, an increase of 25% , or $3 , and increased as a percentage of total Pandora revenue. For the six months ended June 30, 2019 and 2018 , transmission expenses were $26 and $24 , respectively, an increase of 8% , or $2 , but decreased as a percentage of total Pandora revenue. The increase was primarily driven by increased personnel related costs.

We expect our Pandora transmission costs to increase with growth in our subscriber base and off-platform advertising service.

Operating Costs

Subscriber Acquisition Costs are costs only associated with our satellite radio and connected vehicle services and include hardware subsidies paid to radio manufacturers, distributors and automakers; subsidies paid for chipsets and certain other components used in manufacturing radios; device royalties for certain radios and chipsets; product warranty obligations; and freight. The majority of subscriber acquisition costs are incurred and expensed in advance of acquiring a subscriber. Subscriber acquisition costs do not include advertising costs, marketing, loyalty payments to distributors and dealers of satellite radios or revenue share payments to automakers and retailers of satellite radios.

For the three months ended June 30, 2019 and 2018 , subscriber acquisition costs were $104 and $120 , respectively, a decrease of 13% , or $16 , and decreased as a percentage of total revenue. For the six months ended June 30, 2019 and 2018 , subscriber acquisition costs were $212 and $243 , respectively, a decrease of 13% , or $31 , and decreased as a percentage of total revenue. The decreases were driven by reductions to OEM hardware subsidy rates, lower subsidized costs related to the transition of chipsets, and a decrease in the volume of satellite radio installations.

We expect subscriber acquisition costs to fluctuate with OEM installations; however, the subsidized chipsets cost is expected to decline as we transition to a new generation of chipsets. We intend to continue to offer subsidies and other incentives to induce OEMs to include our technology in their vehicles.

Sales and Marketing includes costs for marketing, advertising, media and production, including promotional events and sponsorships; cooperative marketing; and personnel related costs including salaries, commissions, and sales support. Marketing costs include expenses related to direct mail, outbound telemarketing, email communications, and artist marketing.

For the three months ended June 30, 2019 and 2018 , sales and marketing expenses were $232 and $217 , respectively, an increase of 7% , or $15 , but decreased as a percentage of total revenue. For the six months ended June 30, 2019 and 2018 , sales and marketing expenses were $451 and $423 , respectively, an increase of 7% , or $28 , but decreased as a percentage of total revenue. The increases were primarily due to additional subscriber communications, retention programs and acquisition campaigns, as well as higher personnel-related costs.

We anticipate that sales and marketing expenses will increase as we expand programs to retain our existing subscribers, win back former subscribers, and attract new subscribers and listeners.

Engineering, Design and Development consists primarily of compensation and related costs to develop chipsets and new products and services, including streaming and connected vehicle services, research and development for broadcast information systems and costs associated with the incorporation of our radios into new vehicles manufactured by automakers.

For the three months ended June 30, 2019 and 2018 , engineering, design and development expenses were $74 and $64 , respectively, an increase of 16% , or $10 , and increased as a percentage of total revenue. For the six months ended June 30, 2019 and 2018 , engineering, design and development expenses were $142 and $126 , respectively, an increase of 13% , or $16 , and increased as a percentage of total revenue. The increases were driven by higher personnel-related costs.

We expect engineering, design and development expenses to increase in future periods as we continue to develop our infrastructure, products and services.

General and Administrative primarily consists of compensation and related costs for personnel and facilities, and include costs related to our finance, legal, human resources and information technologies departments.

For the three months ended June 30, 2019 and 2018 , general and administrative expenses were $120 and $133 , respectively, a decrease of 10% , or $13 , and decreased as a percentage of total revenue. For the six months ended June 30, 2019 and 2018 , general and administrative expenses were $271 and $262 , respectively, an increase of 3% , or $9 , and decreased as a percentage of total revenue. The decrease for the three months was driven by lower personnel costs, lower legal settlement costs and a one-time sales and use tax charge recorded in the second quarter of 2018. The increase for the six months was primarily driven by a one-time $25 legal settlement reserve for Do-Not-Call litigation, partially offset by lower personnel-related costs and a one-time sales and use tax recorded in the second quarter of 2018.

We expect our general and administrative expenses to increase to support the growth of our business.

Depreciation and Amortization represents the recognition in earnings of the cost of assets used in operations, including our satellite constellations, property, equipment and intangible assets, over their estimated service lives.

For the three months ended June 30, 2019 and 2018 , depreciation and amortization expense was $119 and $116 , respectively, an increase of 3% , or $3 , but decreased as a percentage of total revenue. For the six months ended June 30, 2019 and 2018 , depreciation and amortization expense was $241 and $229 , respectively, an increase of 5% , or $12 , but decreased as a percentage of total revenue. The increases were driven by the additional amortization associated with the acquired intangible assets recorded as part of the Pandora Acquisition, partially offset by normal depreciation.

Other (Expense) Income

Interest Expense includes interest on outstanding debt.

For the three months ended June 30, 2019 and 2018 , interest expense was $97 and $93 , respectively, an increase of 4% , or $4 . For the six months ended June 30, 2019 and 2018 , interest expense was $189 and $190 , respectively, a decrease of 1% , or $1 . The increase for the three month period was primarily driven by higher average debt due to the inclusion of the 5.500% Senior Notes due 2029 during the three months ended June 30, 2019, partially offset by the repurchase of the Pandora 1.75% Convertible Senior Notes due 2020 and an increase in the amount of capitalized interest due to increased spend on the construction of new satellites. The decrease for the six month period was driven by the repurchase of the Pandora 1.75% Convertible Senior Notes due 2020 and an increase in the amount of capitalized interest due to increased spend on the construction of new satellites, partially offset by higher average debt due to the addition of the 5.500% Senior Notes due 2029.

Loss on Extinguishment of Debt, includes losses incurred as a result of the redemption of certain debt.

We recorded a $1 loss on extinguishment of debt during the six months ended June 30, 2019 due to the repurchase of $151 principal amount of Pandora's 1.75% Convertible Senior Notes due 2020. During the three and six months ended June 30, 2018 , Pandora recorded a $15 loss on the exchange of their 1.75% convertible senior notes due 2020 for new 1.75% convertible senior notes due 2023.

Other (Expense) Income primarily includes realized and unrealized gains and losses, interest and dividend income, our share of the income or loss from our equity investments, and transaction costs related to non-operating investments.

For the three months ended June 30, 2019 and 2018 , other (expense) income was $(3) and $4 , respectively. For the six months ended June 30, 2019 and 2018 , other (expense) income was $(1) and $11 , respectively. For the three and six months ended June 30, 2019, we recorded our share of Sirius XM Canada's net loss and losses on other investments, partially offset by interest earned on our loan to Sirius XM Canada and trading gains associated with the investments held for our Deferred Compensation Plan. For the three and six months ended June 30, 2018, other income was driven by interest earned on our loan to Sirius XM Canada.

Income Taxes

Income Tax Expense includes the change in our deferred tax assets, current federal and state tax expenses, and foreign withholding taxes.

For the three months ended June 30, 2019 and 2018 , income tax expense was $77 and $11 , respectively, and $164 and $45 for the six months ended June 30, 2019 and 2018 , respectively.

Our effective tax rate for the three months ended June 30, 2019 and 2018 was 22.5% and 13.7% , respectively. Our effective tax rate for the six months ended June 30, 2019 and 2018 was 26.9% and 16.3% , respectively. The effective tax rate for the six months ended June 30, 2019 was primarily impacted by the increase to the valuation allowance related to the federal research and development credits that are no longer expected to be realizable. The effective tax rate for the three and six months ended June 30, 2018 was primarily impacted by the recognition of excess tax benefits related to share based compensation. We estimate our effective tax rate for the year ending December 31, 2019 will be approximately 23% .

In connection with the Pandora Acquisition, we acquired gross NOL carryforwards of approximately $1,199 for federal income tax purposes available to offset future taxable income. The acquired NOL's are limited annually by Section 382 of the Internal Revenue Code but we expect to fully utilize those NOL's within the carryforward period.

Footnotes to Results of Operations

The following tables reconcile our results of operations as reported to our *pro forma* results of operations for the three and six months ended June 30, 2019 and 2018 which includes the Pandora pre-acquisition financial information for the applicable periods and the effects of purchase price accounting. These pro forma results are based on estimates and assumptions, which we believe are reasonable. They are not the results that would have been realized had the Pandora Acquisition actually occurred on January 1, 2018 and are not indicative of our consolidated results of operations in future periods. The pro forma results primarily include adjustments related to amortization of acquired intangible assets, depreciation of property and equipment, acquisition costs and associated tax impacts.

	Unaudited for the Three Months Ended June 30, 2019				
	As Reported	Predecessor Financial Information	Purchase Price Accounting Adjustments	Ref	Pro Forma
Revenue					
Sirius XM:					
Subscriber revenue	$ 1,402	$ —	$ —		$ 1,402
Advertising revenue	52	—	—		52
Equipment revenue	41	—	—		41
Other revenue	41	—	2	(a)	43
Total Sirius XM revenue	1,536	—	2		1,538
Pandora:					
Subscriber revenue	135	—	—		135
Advertising revenue	306	—	—		306
Total Pandora revenue	441	—	—		441
Total consolidated revenue	1,977	—	2		1,979
Cost of services					
Sirius XM:					
Revenue share and royalties	360	—	—		360
Programming and content	113	—	—		113
Customer service and billing	99	—	—		99
Transmission	25	—	—		25
Cost of equipment	6	—	—		6
Total Sirius XM cost of services	603	—	—		603
Pandora:					
Revenue share and royalties	240	—	6	(b)	246
Programming and content	3	—	—		3
Customer service and billing	21	—	—		21
Transmission	15	—	—		15
Total Pandora cost of services	279	—	6		285
Total consolidated cost of services	882	—	6		888
Subscriber acquisition costs	104	—	—		104
Sales and marketing	232	—	—		232
Engineering, design and development	74	—	—		74
General and administrative	120	—	—		120
Depreciation and amortization	119	—	—		119
Acquisition and other related costs	7	—	(7)	(c)	—
Total operating expenses	1,538	—	(1)		1,537
Income (loss) from operations	439	—	3		442
Other (expense) income:					
Interest expense	(97)	—	—		(97)
Loss on extinguishment of debt	—	—	—		—
Other (expense) income	(3)	—	—		(3)
Total other (expense) income	(100)	—	—		(100)
Income (loss) before income taxes	339	—	3		342
Income tax expense	(76)	—	(1)	(d)	(77)
Net income	$ 263	$ —	$ 2		$ 265

(a) This adjustment eliminates the impact of additional revenue associated with certain programming agreements recorded as part of the XM Merger.
(b) This adjustment includes the impact of additional expense associated with minimum guarantee royalty contracts recorded as part of the Pandora Acquisition.
(c) This adjustment eliminates the impact of acquisition and other related costs.
(d) This adjustment to income taxes was calculated by applying Sirius XM's statutory tax rate at June 30, 2019 to the pro forma adjustments of $3 .

	Unaudited for the Three Months Ended June 30, 2018				
	As Reported	Predecessor Financial Information (e)	Purchase Price Accounting and Pro Forma Adjustments	Ref	Pro Forma
Revenue					
Sirius XM:					
Subscriber revenue	$ 1,304	$ —	$ —		$ 1,304
Advertising revenue	47	—	—		47
Equipment revenue	37	—	—		37
Other revenue	44	—	2	(f)	46
Total Sirius XM revenue	1,432	—	2		1,434
Pandora:					
Subscriber revenue	—	114	—		114
Advertising revenue	—	271	—		271
Total Pandora revenue	—	385	—		385
Total consolidated revenue	1,432	385	2		1,819
Cost of services					
Sirius XM:					
Revenue share and royalties	404	—	—		404
Programming and content	106	—	—		106
Customer service and billing	95	—	—		95
Transmission	24	—	—		24
Cost of equipment	8	—	—		8
Total Sirius XM cost of services	637	—	—		637
Pandora:					
Revenue share and royalties	—	236	—		236
Programming and content	—	2	—		2
Customer service and billing	—	24	—		24
Transmission	—	12	—		12
Total Pandora cost of services	—	274	—		274
Total consolidated cost of services	637	274	—		911
Subscriber acquisition costs	120	—	—		120
Sales and marketing	119	98	—		217
Engineering, design and development	27	37	—		64
General and administrative	92	41	—		133
Depreciation and amortization	75	14	27	(g)	116
Total operating expenses	1,070	464	27		1,561
Income from operations	362	(79)	(25)		258
Other (expense) income:					
Interest expense	(86)	(7)	—		(93)
Loss on extinguishment of debt	—	(15)	—		(15)
Other (expense) income	88	2	(86)	(h)	4
Total other (expense) income	2	(20)	(86)		(104)
Income before income taxes	364	(99)	(111)		154
Income tax expense	(71)	7	53	(i)	(11)
Net income	$ 293	$ (92)	$ (58)		$ 143

(e) Represents Pandora's results for the period April 1, 2018 through June 30, 2018.
(f) This adjustment eliminates the impact of additional revenue associated with certain programming agreements recorded as part of the XM Merger.
(g) This adjustment includes the impact of the additional amortization associated with the acquired intangible assets recorded as part of the Pandora Acquisition that are subject to amortization, partially offset by normal depreciation associated with assets revalued in purchase accounting.
(h) This adjustment eliminates the unrealized gain for the fair value adjustment of our preferred stock investment in Pandora.
(i) This adjustment to income taxes was calculated by applying Sirius XM's statutory tax rate at June 30, 2018 to the pro forma adjustments of $(111) and Pandora's loss before income tax of $(99) .

	Unaudited for the Six Months Ended June 30, 2019				
	As Reported	Predecessor Financial Information (j)	Purchase Price Accounting and Pro Forma Adjustments	Ref	Pro Forma
Revenue					
Sirius XM:					
Subscriber revenue	$ 2,772	$ —	$ —		$ 2,772
Advertising revenue	98	—	—		98
Equipment revenue	82	—	—		82
Other revenue	77	—	4	(k)	81
Total Sirius XM revenue	3,029	—	4		3,033
Pandora:					
Subscriber revenue	223	46	—		269
Advertising revenue	469	68	—		537
Total Pandora revenue	692	114	—		806
Total consolidated revenue	3,721	114	4		3,839
Cost of services					
Sirius XM:					
Revenue share and royalties	707	—	—		707
Programming and content	215	—	—		215
Customer service and billing	197	—	—		197
Transmission	50	—	—		50
Cost of equipment	12	—	—		12
Total Sirius XM cost of services	1,181	—	—		1,181
Pandora:					
Revenue share and royalties	385	71	7	(l)	463
Programming and content	7	—	—		7
Customer service and billing	36	8	—		44
Transmission	21	5	—		26
Total Pandora cost of services	449	84	7		540
Total consolidated cost of services	1,630	84	7		1,721
Subscriber acquisition costs	212	—	—		212
Sales and marketing	415	36	—		451
Engineering, design and development	128	14	—		142
General and administrative	255	16	—		271
Depreciation and amortization	226	6	9	(m)	241
Acquisition and other related costs	83	1	(84)	(n)	—
Total operating expenses	2,949	157	(68)		3,038
Income (loss) from operations	772	(43)	72		801
Other (expense) income:					
Interest expense	(187)	(2)	—		(189)
Loss on extinguishment of debt	(1)	—	—		(1)
Other (expense) income	(2)	1	—		(1)
Total other (expense) income	(190)	(1)	—		(191)
Income (loss) before income taxes	582	(44)	72		610
Income tax expense	(157)	—	(7)	(o)	(164)
Net income	$ 425	$ (44)	$ 65		$ 446

(j) Represents Pandora's results for the period January 1, 2019 through January 31, 2019.
(k) This adjustment eliminates the impact of additional revenue associated with certain programming agreements recorded as part of the XM Merger.
(l) This adjustment includes the impact of additional expense associated with minimum guarantee royalty contracts recorded as part of the Pandora Acquisition.
(m) This adjustment includes the impact of the additional amortization associated with the acquired intangible assets recorded as part of the Pandora Acquisition that are subject to amortization, partially offset by normal depreciation associated with assets revalued in purchase accounting.

(n) This adjustment eliminates the impact of acquisition and other related costs.
(o) This adjustment to income taxes was calculated by applying Sirius XM's statutory tax rate at June 30, 2019 to the pro forma adjustments of $72 and Pandora's pre-acquisition loss before income tax of $(44) .

	Unaudited for the Six Months Ended June 30, 2018				
	As Reported	Predecessor Financial Information (p)	Purchase Price Accounting and Pro Forma Adjustments	Ref	Pro Forma
Revenue					
Sirius XM:					
Subscriber revenue	$ 2,562	$ —	$ —		$ 2,562
Advertising revenue	89	—	—		89
Equipment revenue	72	—	—		72
Other revenue	84	—	5	(q)	89
Total Sirius XM revenue	2,807	—	5		2,812
Pandora:					
Subscriber revenue	—	218	—		218
Advertising revenue	—	486	—		486
Total Pandora revenue	—	704	—		704
Total consolidated revenue	2,807	704	5		3,516
Cost of services					
Sirius XM:					
Revenue share and royalties	714	—	—		714
Programming and content	207	—	—		207
Customer service and billing	189	—	—		189
Transmission	46	—	—		46
Cost of equipment	15	—	—		15
Total Sirius XM cost of services	1,171	—	—		1,171
Pandora:					
Revenue share and royalties	—	458	—		458
Programming and content	—	4	—		4
Customer service and billing	—	44	—		44
Transmission	—	24	—		24
Total Pandora cost of services	—	530	—		530
Total consolidated cost of services	1,171	530	—		1,701
Subscriber acquisition costs	243	—	—		243
Sales and marketing	226	197	—		423
Engineering, design and development	58	68	—		126
General and administrative	177	85	—		262
Depreciation and amortization	147	28	54	(r)	229
Total operating expenses	2,022	908	54		2,984
Income (loss) from operations	785	(204)	(49)		532
Other (expense) income:					
Interest expense	(176)	(14)	—		(190)
Loss on extinguishment of debt	—	(17)	—		(17)
Other (expense) income	124	4	(117)	(s)	11
Total other (expense) income	(52)	(27)	(117)		(196)
Income (loss) before income taxes	733	(231)	(166)		336
Income tax expense	(151)	7	99	(t)	(45)
Net income	$ 582	$ (224)	$ (67)		$ 291

(p) Represents Pandora’s results for the period January 1, 2018 through June 30, 2018.
(q) This adjustment eliminates the impact of additional revenue associated with certain programming agreements recorded as part of the XM Merger.

(r) This adjustment includes the impact of the additional amortization associated with the acquired intangible assets recorded as part of the Pandora Acquisition that are subject to amortization, partially offset by normal depreciation associated with assets revalued in purchase accounting.
(s) This adjustment eliminates the unrealized gain for the fair value adjustment of our preferred stock investment in Pandora.
(t) This adjustment to income taxes was calculated by applying Sirius XM's statutory tax rate at June 30, 2018 to the pro forma adjustments of $(166) and Pandora's loss before income tax of $(231) .

Key Financial and Operating Performance Metrics

In this section, we present certain financial performance measures some of which are presented as Non-GAAP items, which include free cash flow and adjusted EBITDA. We also present certain operating performance measures. Our adjusted EBITDA excludes the impact of share-based payment expense and certain purchase price accounting adjustments related to the merger of Sirius and XM (the "XM Merger") and the Pandora Acquisition. Additionally, when applicable, our adjusted EBITDA metric excludes the effect of significant items that do not relate to the on-going performance of our business. We use these Non-GAAP financial and operating performance measures to manage our business, to set operational goals and as a basis for determining performance-based compensation for our employees. See the accompanying glossary on pages 60 through 63 for more details and for the reconciliation to the most directly comparable GAAP measure (where applicable).

We believe these Non-GAAP financial and operating performance measures provide useful information to investors regarding our financial condition and results of operations. We believe these Non-GAAP financial and operating performance measures may be useful to investors in evaluating our core trends because they provide a more direct view of our underlying costs. We believe investors may use our adjusted EBITDA to estimate our current enterprise value and to make investment decisions. We believe free cash flow provides useful supplemental information to investors regarding our cash available for future subscriber acquisitions and capital expenditures, to repurchase or retire debt, to acquire other companies and our ability to return capital to stockholders. By providing these Non-GAAP financial and operating performance measures, together with the reconciliations to the most directly comparable GAAP measure (where applicable), we believe we are enhancing investors' understanding of our business and our results of operations.

Our Non-GAAP financial measures should be viewed in addition to, and not as an alternative for or superior to, our reported results prepared in accordance with GAAP. In addition, our Non-GAAP financial measures may not be comparable to similarly-titled measures by other companies. Please refer to the glossary (pages 60 through 63) for a further discussion of such Non-GAAP financial and operating performance measures and reconciliations to the most directly comparable GAAP measure (where applicable). Subscribers and subscription related revenues and expenses associated with our connected vehicle services and Sirius XM Canada are not included in Sirius XM's subscriber count or subscriber-based operating metrics.

Set forth below are our subscriber balances as of June 30, 2019 compared to June 30, 2018 .

(subscribers in thousands)	As of June 30, 2019	As of June 30, 2018 [1]	2019 vs 2018 Change Amount	2019 vs 2018 Change %
Sirius XM				
Self-pay subscribers	29,336	28,203	1,133	4 %
Paid promotional subscribers	5,009	5,292	(283)	(5)%
Ending subscribers	34,345	33,495	850	3 %
Traffic users	9,150	8,118	1,032	13 %
Sirius XM Canada subscribers	2,702	2,648	54	2 %
Pandora				
Active users - all services	64,948	71,435	(6,487)	(9)%
Self-pay subscribers	6,224	5,976	248	4 %
Paid promotional subscribers	733	—	733	nm
Ending subscribers	6,957	5,976	981	16 %

(1) Includes Pandora's results as of June 30, 2018 .

The following table contains our Non-GAAP financial and operating performance measures which are based on our adjusted results of operations for the three and six months ended June 30, 2019 and 2018 .

(subscribers in thousands)	For the Three Months Ended June 30, 2019	For the Three Months Ended June 30, 2018 [2]	For the Six Months Ended June 30, 2019 [1]	For the Six Months Ended June 30, 2018 [3]	2019 vs 2018 Change Three Months Amount	2019 vs 2018 Change Three Months %	2019 vs 2018 Change Six Months Amount	2019 vs 2018 Change Six Months %
Sirius XM								
Self-pay subscribers	290	483	421	690	(193)	(40)%	(269)	(39)%
Paid promotional subscribers	(116)	(54)	(115)	69	(62)	115 %	(184)	(267)%
Net additions	174	429	306	759	(255)	(59)%	(453)	(60)%
Weighted average number of subscribers	34,126	33,197	34,071	33,013	929	3 %	1,058	3 %
Average self-pay monthly churn	1.7%	1.6%	1.7%	1.7%	0.1%	6 %	—%	— %
ARPU [4]	$ 13.83	$ 13.30	$ 13.67	$ 13.13	$ 0.53	4 %	$ 0.54	4 %
SAC, per installation	$ 22.74	$ 27.54	$ 23.40	$ 27.86	$ (4.80)	(17)%	$ (4.46)	(16)%
Pandora								
Self-pay subscribers	64	350	310	498	(286)	(82)%	(188)	(38)%
Paid promotional subscribers	(3)	—	(23)	—	(3)	nm	(23)	nm
Net additions	61	350	287	498	(289)	(83)%	(211)	(42)%
Weighted average number of subscribers	6,873	5,803	6,791	5,663	1,070	18 %	1,128	20 %
ARPU	$ 6.53	$ 6.52	$ 6.61	$ 6.41	$ 0.01	— %	$ 0.20	3 %
Ad supported listener hours (in billions)	3.49	3.86	6.91	7.71	(0.37)	(10)%	(0.80)	(10)%
Advertising revenue per thousand listener hours (RPM)	$ 80.14	$ 68.75	$ 71.46	$ 62.15	$ 11.39	17 %	$ 9.31	15 %
Licensing costs per thousand listener hours (LPM)	$ 37.91	$ 36.87	$ 37.28	$ 36.61	$ 1.04	3 %	$ 0.67	2 %
Licensing costs per paid subscriber (LPU)	$ 4.16	$ 4.78	$ 4.06	$ 4.72	$ (0.62)	(13)%	$ (0.66)	(14)%
Total Company								
Adjusted EBITDA	$ 618	$ 507	$ 1,184	$ 954	$ 111	22 %	$ 230	24 %
Free cash flow	$ 474	$ 486	$ 774	$ 813	$ (12)	(2)%	$ (39)	(5)%

nm - not meaningful

(1) Includes Pandora's results for the six month period, including pre-acquisition results for the period January 1, 2019 through January 31, 2019.

(2) Includes Pandora's pre-acquisition results for the period April 1, 2018 through June 30, 2018.

(3) Includes Pandora's pre-acquisition results for the period January 1, 2018 through June 30, 2018.
(4) ARPU for Sirius XM excludes subscriber revenue from our connected vehicle services of $38 and $26 for the three months and $75 and $51 for the six months ended June 30, 2019 and 2018 , respectively.

Sirius XM

Subscribers. At June 30, 2019 , Sirius XM had approximately 34,345 subscribers, an increase of 850 , or 3% , from the approximately 33,495 as of June 30, 2018 . The increase in total subscribers was primarily due to growth in our self-pay subscriber base from original and subsequent owner trial conversions as well as subscriber win back programs.

For the three months ended June 30, 2019 and 2018 , net additions were 174 and 429 , respectively. For the six months ended June 30, 2019 and 2018 , net additions were 306 and 759 , respectively. Paid promotional subscribers decreased due to declines in shipments and trial starts from automakers offering paid subscriptions. Self-pay net additions decreased primarily due to increases in vehicle related deactivations.

Traffic Users. We offer services that provide graphic information as to road closings, traffic flow and incident data to consumers with compatible in-vehicle navigation systems. At June 30, 2019 , Sirius XM had approximately 9,150 traffic users, an increase of 1,032 users, or 13% , from the approximately 8,118 traffic users as of June 30, 2018 .

Sirius XM Canada Subscribers. At June 30, 2019 , Sirius XM Canada had approximately 2,702 subscribers, an increase of 54 , or 2% , from the approximately 2,648 Sirius XM Canada subscribers as of June 30, 2018 .

Average Self-pay Monthly Churn is derived by dividing the monthly average of self-pay deactivations for the period by the average number of self-pay subscribers for the period. (See accompanying glossary on pages 60 through 63 for more details.)

For the three months ended June 30, 2019 and 2018 , our average self-pay monthly churn rate was 1.7% and 1.6% , respectively. For the six months ended June 30, 2019 and 2018 , our average self-pay monthly churn rate was 1.7% . The increase for the three month period was primarily driven by vehicle related churn.

ARPU is derived from total earned Sirius XM subscriber revenue (excluding revenue derived from our connected vehicle services) and net advertising revenue, divided by the number of months in the period, divided by the daily weighted average number of subscribers for the period. (See the accompanying glossary on pages 60 through 63 for more details.)

For the three months ended June 30, 2019 and 2018 , subscriber ARPU - Sirius XM was $13.83 and $13.30 , respectively. For the six months ended June 30, 2019 and 2018 , subscriber ARPU - Sirius XM was $13.67 and $13.13 , respectively. The increase was driven by increases in the U. S. Music Royalty Fee, certain of our subscription rates, and higher advertising revenue.

SAC, Per Installation, is derived from subscriber acquisition costs and margins from the sale of radios, components and accessories (excluding connected vehicle services), divided by the number of satellite radio installations in new vehicles and shipments of aftermarket radios for the period. (See the accompanying glossary on pages 60 through 63 for more details.)

For the three months ended June 30, 2019 and 2018 , SAC, per installation, was $22.74 and $27.54 , respectively. For the six months ended June 30, 2019 and 2018 , SAC, per installation, was $23.40 and $27.86 , respectively. The decrease was driven by our transition to a new generation of chipsets and reductions to OEM hardware subsidy rates.

Pandora

Active Users. At June 30, 2019 , Pandora had approximately 64,948 monthly active users, a decrease of 6,487 users, or 9% , from the 71,435 monthly active users as of June 30, 2018 . The decrease in active users was driven by a decline in the number of new users.

Subscribers. At June 30, 2019 , Pandora had approximately 6,957 subscribers, an increase of 981 , or 16% , from the approximately 5,976 as of June 30, 2018 . The increase in total subscribers was primarily due to an increase in paid subscribers and a decrease in subscriber churn of Pandora Premium and Pandora Plus.

For the three months ended June 30, 2019 and 2018 , net additions were 61 and 350 , respectively. For the six months ended June 30, 2019 and 2018 , net additions were 287 and 498 , respectively. Net additions decreased as growth in both our Pandora Premium and Pandora Plus services slowed.

ARPU is defined as average monthly revenue per paid subscriber on our Pandora subscription services. (See the accompanying glossary on pages 60 through 63 for more details.)

For the three months ended June 30, 2019 and 2018 , subscriber ARPU - Pandora was $6.53 and $6.52 , respectively. For the six months ended June 30, 2019 and 2018 , subscriber ARPU - Pandora was $6.61 and $6.41 , respectively. The increase in subscription ARPU was primarily due to an increase in Pandora Plus and Premium subscribers.

Ad supported listener hours are a key indicator of the growth of our Pandora business and the engagement of our Pandora listeners. We include ad supported listener hours related to Pandora's non-radio content offerings in the definition of listener hours.

For the three months ended June 30, 2019 and 2018 , ad supported listener hours were 3,490 and 3,860 , respectively. For the six months ended June 30, 2019 and 2018 , ad supported listener hours were 6,910 and 7,710 , respectively. The decline in ad supported listener hours was primarily driven by a decline in the number of new users.

RPM is a key indicator of our ability to monetize advertising inventory created by our listener hours on the Pandora services. Ad RPM is calculated by dividing advertising revenue by the number of thousands of listener hours of our Pandora advertising-based service.

For the three months ended June 30, 2019 and 2018 , RPM was $80.14 and $68.75 , respectively. For the six months ended June 30, 2019 and 2018 , RPM was $71.46 and $62.15 , respectively. The increase was due to an increase in the average price per ad due to new advertising products resulting in improved monetization.

LPM is tracked for our non-subscription, ad-supported service across all Pandora delivery platforms. The content acquisition costs included in our ad LPM calculations are based on the rates set by our license agreements with record labels, performing rights organizations and music publishers or the applicable rates set by the Copyright Royalty Board if we have not entered into a license agreement with the copyright owner of a particular sound recording.

For the three months ended June 30, 2019 and 2018 , LPM was $37.91 and $36.87 , respectively. For the six months ended June 30, 2019 and 2018 , LPM was $37.28 and $36.61 , respectively. The increase was primarily driven by increases to track rates.

LPU is defined as average monthly licensing costs per paid subscriber on our Pandora subscription services. LPU is a key measure of our ability to manage costs for our subscription services.

For the three months ended June 30, 2019 and 2018 , LPU was $4.16 and $4.78 , respectively. For the six months ended June 30, 2019 and 2018 , LPU was $4.06 and $4.72 , respectively. The decrease was due to lower minimum guarantees associated with our direct license agreements with major and independent labels, distributors, PROs and publishers.

Total Company

Adjusted EBITDA. A djusted EBITDA is defined as net income before interest expense, income tax expense and depreciation and amortization adjusted for pro forma information which is inclusive of the predecessor periods (Pandora's results for the period January 1, 2019 through January 31, 2019 and January 1, 2018 through June 30, 2018.). Adjusted EBITDA excludes the impact of other expense (income), loss on extinguishment of debt, other non-cash charges, such as certain purchase price accounting adjustments, share-based payment expense, loss on disposal of assets, and legal settlements and reserves related to the historical use of sound recordings (if applicable). (See the accompanying glossary on pages 60 through 63 for a reconciliation to GAAP and for more details.)

For the three months ended June 30, 2019 and 2018 , adjusted EBITDA was $618 and $507 , respectively, an increase of 22% , or $111 . For the six months ended June 30, 2019 and 2018 , adjusted EBITDA was $1,184 and $954 , respectively, an increase of 24% , or $230 . The increase was due to growth in Sirius XM subscriber revenue from higher U.S. Music Royalty Fee due to a higher music royalty rate and a 3% increase in the daily weighted average number of subscribers, Pandora advertising revenue, and Pandora subscriber revenue growth from an increase in the number of Pandora Plus and Pandora Premium subscribers; partially offset by higher revenue share and royalty costs driven by growth in our revenue.

Free Cash Flow includes cash provided by operations, net of additions to property and equipment, and restricted and other investment activity. (See the accompanying glossary on pages 60 through 63 for a reconciliation to GAAP and for more details.)

For the three months ended June 30, 2019 and 2018 , free cash flow was $474 and $486 , respectively, a decrease of $12 , or 2% . For the six months ended June 30, 2019 and 2018 , free cash flow was $774 and $813 , respectively, a decrease of $39 , or 5% . The decrease was driven by lower cash from operating activities due to the inclusion of Pandora and a one-time payment for a legal settlement, partially offset by lower satellite construction spend.

Liquidity and Capital Resources

Cash Flows for the six months ended June 30, 2019 compared with the six months ended June 30, 2018

The following table presents a summary of our cash flow activity for the periods set forth below:

	For the Six Months Ended June 30,		
	2019	2018	2019 vs 2018
Net cash provided by operating activities	$ 941	$ 994	$ (53)
Net cash provided by (used in) investing activities	209	(184)	393
Net cash used in financing activities	(989)	(815)	(174)
Net increase in cash, cash equivalents and restricted cash	161	(5)	166
Cash, cash equivalents and restricted cash at beginning of period	65	79	(14)
Cash, cash equivalents and restricted cash at end of period	$ 226	$ 74	$ 152

Cash Flows Provided by Operating Activities

Cash flows provided by operating activities decreased by $53 to $941 for the six months ended June 30, 2019 from $994 for the six months ended June 30, 2018 .

Our largest source of cash provided by operating activities is cash generated by subscription and subscription-related revenues. We also generate cash from the sale of advertising on Pandora, advertising on certain non-music channels on Sirius XM and the sale of satellite radios, components and accessories. Our primary uses of cash from operating activities include revenue share and royalty payments to distributors, programming and content providers, and payments to radio manufacturers, distributors and automakers. In addition, uses of cash from operating activities include payments to vendors to service, maintain and acquire listeners and subscribers, general corporate expenditures, and compensation and related costs.

Cash Flows Provided by (Used in) Investing Activities

Cash flows provided by investing activities in the six months ended June 30, 2019 were primarily due to cash received from the Pandora Acquisition and from the sale of short-term investments, partially offset by spending primarily for capitalized software and hardware, and to construct replacement satellites. Cash flows used in investing activities in the six months ended June 30, 2018 were primarily due to spending primarily for capitalized software and hardware, and to construct replacement satellites. We spent $92 and $61 on capitalized software and hardware as well as $36 and $80 to construct replacement satellites during the six months ended June 30, 2019 and 2018 , respectively.

Cash Flows Used in Financing Activities

Cash flows used in financing activities consists of the issuance and repayment of long-term debt, the purchase of common stock under our share repurchase program, the payment of cash dividends and taxes paid in lieu of shares issued for stock-based compensation. Proceeds from long-term debt have been used to fund our operations, construct and launch new satellites, invest in other infrastructure improvements and purchase shares of our common stock.

Cash flows used in financing activities in the six months ended June 30, 2019 were primarily due to the purchase and retirement of shares of our common stock under our repurchase program for $1,474 , repayment under the Credit Facility of $439, the repurchase for $152 of Pandora's 1.75% Convertible Senior Notes due 2020, the payment of cash dividends of $113 , and payment of $47 for taxes paid in lieu of shares issued for share-based compensation, partially offset by cash provided by the issuance of $1,236 in aggregate principal amount of 5.500% Senior Notes due 2029, net of costs. Cash flows used in financing activities in the six months ended June 30, 2018 were primarily due to the purchase and retirement for $334 of shares

of our common stock under our repurchase program, repayment under the Credit Facility of $303 , the payment of cash dividends of $99 and payment of $71 for taxes paid in lieu of shares issued for share-based compensation.

Future Liquidity and Capital Resource Requirements

Based upon our current business plans, we expect to fund operating expenses, capital expenditures, including the construction of replacement satellites, working capital requirements, interest payments, taxes and scheduled maturities of our debt with existing cash, cash flow from operations and borrowings under our Credit Facility. As of June 30, 2019 , no amounts were outstanding under our Credit Facility. As the amount available for future borrowing is reduced by $1 related to letters of credit issued for the benefit of Pandora, $1,749 was available for future borrowing under our Credit Facility. We believe that we have sufficient cash and cash equivalents, as well as debt capacity, to cover our estimated short-term and long-term funding needs, including amounts to construct, launch and insure replacement satellites, as well as fund stock repurchases, future dividend payments and strategic opportunities.

Our ability to meet our debt and other obligations depends on our future operating performance and on economic, financial, competitive and other factors. We continually review our operations for opportunities to adjust the timing of expenditures to ensure that sufficient resources are maintained.

We regularly evaluate our business plans and strategy. These evaluations often result in changes to our business plans and strategy, some of which may be material and significantly change our cash requirements. These changes in our business plans or strategy may include: the acquisition of unique or compelling programming; the development and introduction of new features or services; significant new or enhanced distribution arrangements; investments in infrastructure, such as satellites, equipment or radio spectrum; and acquisitions and investments, including acquisitions and investments that are not directly related to our existing business.

We may from time to time purchase our outstanding debt through open market purchases, privately negotiated transactions or otherwise. Purchases or retirement of debt, if any, will depend on prevailing market conditions, liquidity requirements, contractual restrictions and other factors. The amounts involved may be material.

Capital Return Program

As of June 30, 2019 , our board of directors had authorized for repurchase an aggregate of $14,000 of our common stock. As of June 30, 2019 , our cumulative repurchases since December 2012 under our stock repurchase program totaled 2,942 shares for $12,176 , and $1,824 remained available for additional repurchases under our existing stock repurchase program authorization.

Shares of common stock may be purchased from time to time on the open market and in privately negotiated transactions, including in accelerated stock repurchase transactions and transactions with Liberty Media and its affiliates. We intend to fund the additional repurchases through a combination of cash on hand, cash generated by operations and future borrowings.

On July 16, 2019 , our board of directors declared a quarterly dividend in the amount of $0.0121 per share of common stock payable on August 30, 2019 to stockholders of record as of the close of business on August 9, 2019 . Our board of directors expects to declare regular quarterly dividends, in an aggregate annual amount of $0.0484 per share of common stock.

Debt Covenants

The indentures governing Sirius XM's senior notes and Pandora's convertible notes and the agreement governing the Sirius XM Credit Facility include restrictive covenants. As of June 30, 2019 , we were in compliance with such covenants. For a discussion of our “Debt Covenants,” refer to Note 12 to our unaudited consolidated financial statements in Part I, Item I, of this Quarterly Report on Form 10-Q .

Off-Balance Sheet Arrangements

We do not have any significant off-balance sheet arrangements other than those disclosed in Note 15 to our unaudited consolidated financial statements in Part I, Item I, of this Quarterly Report on Form 10-Q that are reasonably likely to have a material effect on our financial condition, results of operations, liquidity, capital expenditures or capital resources.

Contractual Cash Commitments

For a discussion of our "Contractual Cash Commitments," refer to Note 15 to our unaudited consolidated financial statements in Part I, Item I, of this Quarterly Report on Form 10-Q .

Related Party Transactions

For a discussion of "Related Party Transactions," refer to Note 11 to our unaudited consolidated financial statements in Part II, Item 8, of this Quarterly Report on Form 10-Q .

Critical Accounting Policies and Estimates

For a discussion of our "Critical Accounting Policies and Estimates," refer to "Management's Discussion and Analysis of Financial Condition and Results of Operations" in our Annual Report on Form 10-K for the year ended December 31, 2018 . There have been no material changes to our critical accounting policies and estimates since December 31, 2018 .

Glossary

Active users - the number of distinct registered users on the Pandora services, including subscribers, that have consumed content within the trailing 30 days to the end of the final calendar month of the period. The number of active users on the Pandora services may overstate the number of unique individuals who actively use our Pandora service, as one individual may use multiple accounts. To become a registered user on the Pandora services, a person must sign-up using an email address or phone number, or access our service using a device with a unique identifier, which we use to create an account for our service. Prior to the second quarter of 2018, Pandora defined active users as the number of distinct registered users, including subscribers, that have requested audio from Pandora's servers during the trailing 30 days to the end of the final calendar month of the period.

Average self-pay monthly churn - the monthly average of self-pay deactivations for the period divided by the average number of self-pay subscribers for the period.

Adjusted EBITDA - EBITDA is defined as net income before interest expense, income tax expense and depreciation and amortization. We adjust EBITDA to exclude the impact of other expense (income) as well as certain other charges discussed below. Adjusted EBITDA is a Non-GAAP financial measure that excludes or adjusts for (if applicable): (i) certain adjustments as a result of the purchase price accounting for the XM Merger and the Pandora Acquisition, (ii) predecessor net income adjusted for certain expenses, including depreciation and amortization, other income (loss), and share-based payment expense for January 2019 and the six months ended June 30, 2018, (iii) share-based payment expense and (iv) other significant operating expense (income) that do not relate to the on-going performance of our business. We believe adjusted EBITDA is a useful measure of the underlying trend of our operating performance, which provides useful information about our business apart from the costs associated with our capital structure and purchase price accounting. We believe investors find this Non-GAAP financial measure useful when analyzing our past operating performance with our current performance and comparing our operating performance to the performance of other communications, entertainment and media companies. We believe investors use adjusted EBITDA to estimate our current enterprise value and to make investment decisions. As a result of large capital investments in our satellite radio system, our results of operations reflect significant charges for depreciation expense. We believe the exclusion of share-based payment expense is useful as it is not directly related to the operational conditions of our business. We also believe the exclusion of the legal settlements and reserves, acquisition related costs, loss on extinguishment of debt and loss on disposal of assets, to the extent they occur during the period, is useful as they are significant expenses not incurred as part of our normal operations for the period.

Adjusted EBITDA has certain limitations in that it does not take into account the impact to our statements of comprehensive income of certain expenses, including share-based payment expense and certain purchase price accounting for the XM Merger and the Pandora Acquisition. We endeavor to compensate for the limitations of the Non-GAAP measure presented by also providing the comparable GAAP measure with equal or greater prominence and descriptions of the reconciling items, including quantifying such items, to derive the Non-GAAP measure. Investors that wish to compare and evaluate our operating results after giving effect for these costs, should refer to net income as disclosed in our unaudited consolidated statements of comprehensive income. Since adjusted EBITDA is a Non-GAAP financial performance measure, our calculation of adjusted EBITDA may be susceptible to varying calculations; may not be comparable to other similarly titled measures of other companies; and should not be considered in isolation, as a substitute for, or superior to measures of financial performance prepared in accordance with GAAP. The reconciliation of net income to the adjusted EBITDA is calculated as follows:

	For the Three Months Ended June 30,		For the Six Months Ended June 30,	
	2019	2018	2019	2018
Net income:	$ 263	$ 293	$ 425	$ 582
Add back items excluded from Adjusted EBITDA:				
Legal settlements and reserves	—	69	25	69
Acquisition and other related costs [1]	7	—	83	—
Share-based payment expense	57	36	106	70
Depreciation and amortization	119	75	226	147
Interest expense	97	86	187	176
Loss on extinguishment of debt	—	—	1	—
Other expense (income)	3	(88)	2	(124)
Income tax expense	76	71	157	151
Purchase price accounting adjustments:				
Revenues	2	2	4	5
Operating expenses	(6)	—	(7)	—
Pro forma adjustments [2]	—	(37)	(25)	(122)
Adjusted EBITDA	$ 618	$ 507	$ 1,184	$ 954

(1) Acquisition and other related costs include $21 of share-based compensation expense for the six months ended June 30, 2019 .

(2) Pro forma adjustment for three months ended June 30, 2018 includes Pandora's Net income for the three months ended June 30, 2018 of $(92) plus Depreciation and amortization of $14 , Share-based payment expense of $28 , Loss on extinguishment of debt of $15 , and Interest expense of $7 offset by Other expense (income) of $2 and Income tax benefit of $7 . Pro forma adjustment for the six months ended June 30, 2019 includes Pandora's January 2019 Net income of $(44) plus Depreciation and amortization of $6 , Share-based payment expense of $11 , Acquisition and other related costs of $1 , and Interest expense of $2 offset by Other expense (income) of $1 . Pro forma adjustment for six months ended June 30, 2018 includes Pandora's Net income for the six months ended June 30, 2018 of $(224) plus Depreciation and amortization of $28 , Share-based payment expense of $54 , Loss on extinguishment of debt of $17 , and Interest expense of $14 offset by Other expense (income) of $4 and Income tax benefit of $7 .

Free cash flow - is derived from cash flow provided by operating activities, net of additions to property and equipment and purchases of other investments. Free cash flow is a metric that our management and board of directors use to evaluate the cash generated by our operations, net of capital expenditures and other investment activity. In a capital intensive business, with significant investments in satellites, we look at our operating cash flow, net of these investing cash outflows, to determine cash available for future subscriber acquisition and capital expenditures, to repurchase or retire debt, to acquire other companies and to evaluate our ability to return capital to stockholders. We exclude from free cash flow certain items that do not relate to the on-going performance of our business, such as cash flows for acquisitions, strategic and short-term investments, and net loan activity with related parties and other equity investees. We believe free cash flow is an indicator of the long-term financial stability of our business. Free cash flow, which is reconciled to "Net cash provided by operating activities," is a Non-GAAP financial measure. This measure can be calculated by deducting amounts under the captions "Additions to property and equipment" and deducting or adding Restricted and other investment activity from "Net cash provided by operating activities" from the unaudited consolidated statements of cash flows. Free cash flow should be used in conjunction with other GAAP financial performance measures and may not be comparable to free cash flow measures presented by other companies. Free cash flow should be viewed as a supplemental measure rather than an alternative measure of cash flows from operating activities, as determined in accordance with GAAP. Free cash flow is limited and does not represent remaining cash flows available for discretionary expenditures due to the fact that the measure does not deduct the payments required for debt maturities. We believe free cash flow provides useful supplemental information to investors regarding our current cash flow, along with other GAAP measures (such as cash flows from operating and investing activities), to determine our financial condition, and to compare our operating performance to other communications, entertainment and media companies. Free cash flow is calculated as follows:

	For the Three Months Ended June 30,		For the Six Months Ended June 30,	
	2019	2018	2019	2018
Cash Flow information				
Net cash provided by operating activities	$ 545	$ 579	$ 941	$ 994
Net cash provided by (used in) investing activities	$ (75)	$ (99)	$ 209	$ (184)
Net cash used in financing activities	$ (317)	$ (495)	$ (989)	$ (815)
Free Cash Flow				
Net cash provided by operating activities	$ 545	$ 579	$ 941	$ 994
Additions to property and equipment	(70)	(93)	(160)	(174)
Purchases of other investments	(1)	—	(7)	(7)
Free cash flow	$ 474	$ 486	$ 774	$ 813

ARPU - Sirius XM ARPU is derived from total earned subscriber revenue (excluding revenue associated with our connected vehicle services), advertising revenue, divided by the number of months in the period, divided by the daily weighted average number of subscribers for the period. Pandora ARPU is defined as average monthly subscriber revenue per paid subscriber on our Pandora subscription services.

Subscriber acquisition cost, per installation - or SAC, per installation, is derived from subscriber acquisition costs and margins from the sale of radios and accessories (excluding connected vehicle services), divided by the number of satellite radio installations in new vehicles and shipments of aftermarket radios for the period. SAC, per installation, is calculated as follows:

	For the Three Months Ended June 30,		For the Six Months Ended June 30,	
	2019	2018	2019	2018
Subscriber acquisition costs, excluding connected vehicle services	$ 104	$ 120	$ 212	$ 242
Less: margin from sales of radios and accessories, excluding connected vehicle services	(34)	(29)	(68)	(56)
	$ 70	$ 91	$ 144	$ 186
Installations	3,078	3,313	6,155	6,693
SAC, per installation [(a)]	$ 22.74	$ 27.54	$ 23.40	$ 27.86

(a) Amounts may not recalculate as a result of rounding.

Ad supported listener hours - is based on the total bytes served over our advertising supported platforms for each track that is requested and served from our Pandora servers, as measured by our internal analytics systems, whether or not a listener listens to the entire track. For non-music content such as podcasts, episodes are divided into approximately track-length parts, which are treated as tracks. To the extent that third-party measurements of advertising hours are not calculated using a similar server-based approach, the third-party measurements may differ from our measurements.

RPM - is calculated by dividing advertising revenue, excluding AdsWizz and other off-platform revenue, by the number of thousands of listener hours on our Pandora advertising-based service.

LPM - is calculated by dividing advertising licensing costs by the number of thousands of listener hours on our Pandora advertising-based service.

LPU - is calculated by dividing subscriber licensing costs by the number of paid subscribers on our Pandora subscription services.

ITEM 3. QUANTITATIVE AND QUALITATIVE DISCLOSURE ABOUT MARKET RISKS

As of June 30, 2019 , we did not hold or issue any free-standing derivatives. We hold investments in money market funds and certificates of deposit. These securities are consistent with the objectives contained within our investment policy. The basic objectives of our investment policy are the preservation of capital, maintaining sufficient liquidity to meet operating requirements and maximizing yield. As of June 30, 2019 , we also held the following material investment:

- In connection with the recapitalization of Sirius XM Canada, on May 25, 2017, we loaned Sirius XM Canada $131 million . The loan is denominated in Canadian dollars and is subject to changes in foreign currency. It is considered a long-term investment with any unrealized gains or losses reported within Accumulated other comprehensive (loss) income. Such loan has a term of fifteen years, bears interest at a rate of 7.62% per annum and includes customary covenants and events of default, including an event of default relating to Sirius XM Canada’s failure to maintain specified leverage ratios. The carrying value of the loan as of June 30, 2019 was $131.0 million and approximates its fair value as of such date. Had the Canadian to U.S. dollar exchange rate been 10% lower as of June 30, 2019 , the value of this loan would have been approximately $13 million lower.

Our debt includes fixed rate instruments and the fair market value of our debt is sensitive to changes in interest rates. Sirius XM's borrowings under the Credit Facility carry a variable interest rate based on LIBOR plus an applicable rate based on its debt to operating cash flow ratio. We currently do not use interest rate derivative instruments to manage our exposure to interest rate fluctuations.

ITEM 4. CONTROLS AND PROCEDURES

Controls and Procedures

We maintain a set of disclosure controls and procedures designed to ensure that information required to be disclosed in reports that we file or submit under the Exchange Act of 1934, is recorded, processed, summarized and reported within the time periods specified in SEC rules and forms, and that such information is accumulated and communicated to our management, including our principal executive officer and principal financial officer, as appropriate, to allow timely decisions regarding required disclosures. The design of any disclosure controls and procedures is based in part upon certain assumptions about the likelihood of future events, and there can be no assurance that any design will succeed in achieving its stated goals under all potential future conditions. Any controls and procedures, no matter how well designed and operated, can provide only reasonable, not absolute, assurance of achieving the desired control objectives.

As of June 30, 2019 , an evaluation was performed under the supervision and with the participation of our management, including James E. Meyer, our Chief Executive Officer, and David J. Frear, our Senior Executive Vice President and Chief Financial Officer, of the effectiveness of the design and operation of our disclosure controls and procedures (as that term is defined in Rule 13a-15(e) and 15d-15(e) under the Securities Exchange Act of 1934). Based on that evaluation, our management, including our Chief Executive Officer and our Chief Financial Officer, concluded that our disclosure controls and procedures were effective as of June 30, 2019 .

Changes in Internal Control Over Financial Reporting

We acquired Pandora in February 2019. As a result of the acquisition, we are reviewing the internal controls of Pandora and are making appropriate changes as deemed necessary. Except for the changes in internal control at Pandora, there has been no change in our internal control over financial reporting that occurred during the six months ended June 30, 2019 that has materially affected, or is reasonably likely to materially affect, our internal control over financial reporting.

PART II — OTHER INFORMATION

ITEM 1. LEGAL PROCEEDINGS

In the ordinary course of business, we are a defendant or party to various claims and lawsuits, including those discussed below.

Telephone Consumer Protection Act Suits . On March 13, 2017, Thomas Buchanan, individually and on behalf of all others similarly situated, filed a class action complaint against Sirius XM in the United States District Court for the Northern District of Texas, Dallas Division. The plaintiff in this action alleges that Sirius XM violated the Telephone Consumer Protection Act of 1991 (the "TCPA") by, among other things, making telephone solicitations to persons on the National Do-Not-Call registry, a database established to allow consumers to exclude themselves from telemarketing calls unless they consent to receive the calls in a signed, written agreement, and making calls to consumers in violation of our internal Do-Not-Call registry. The plaintiff is seeking various forms of relief, including statutory damages of $500 for each violation of the TCPA or, in the alternative, treble damages of up to $1,500 for each knowing and willful violation of the TCPA and a permanent injunction prohibiting us from making, or having made, any calls to land lines that are listed on the National Do-Not-Call registry or our internal Do-Not-Call registry. The plaintiff has filed a motion seeking class certification, and that motion is pending.

Following a mediation, in April 2019, Sirius XM entered into an agreement to settle this purported class action suit. The settlement resolves the claims of consumers for the period October 2013 through January 2019. As part of the settlement, Sirius XM paid $25 million into a non-reversionary settlement fund from which cash to class members, notice, administrative costs, and attorney's fees and costs will be paid. The settlement also contemplates that Sirius XM will provide three months of service to its All Access subscription package for those members of the class that elect to receive it, in lieu of cash, at no cost to those class members and who are not active subscribers at the time of the distribution. The availability of this three-month service option will not diminish the $25 million common fund. As part of the settlement, Sirius XM will also implement change relating to its "Do-Not-Call" practices and telemarketing programs. Settlement of this matter is subject to, among other things, final approval by the Court.

Pre-1972 Sound Recording Litigation. On October 2, 2014, Flo & Eddie Inc. filed a class action suit against Pandora in the federal district court for the Central District of California. The complaint alleges a violation of California Civil Code Section 980, unfair competition, misappropriation and conversion in connection with the public performance of sound recordings recorded prior to February 15, 1972 (which we refer to as, "pre-1972 recordings"). On December 19, 2014, Pandora filed a motion to strike the complaint pursuant to California's Anti-Strategic Lawsuit Against Public Participation ("Anti-SLAPP") statute, which following denial of Pandora's motion was appealed to the Ninth Circuit Court of Appeals. In March 2017, the Ninth Circuit requested certification to the California Supreme Court on the substantive legal questions. The California Supreme Court accepted certification. In May 2019, the California Supreme Court issued an order dismissing consideration of the certified questions on the basis that, following the enactment of the Orrin G. Hatch-Bob Goodlatte Music Modernization Act, Pub. L. No. 115-264, 132 Stat. 3676 (2018) (the "MMA"), resolution of the questions posed by the Ninth Circuit Court of Appeals was no longer "necessary to . . . settle an important question of law."

In September and October 2015, Arthur and Barbara Sheridan filed separate class action suits against Pandora in the federal district courts for the Northern District of California and the District of New Jersey. The complaints allege a variety of violations of common law and state copyright statutes, common law misappropriation, unfair competition, conversion, unjust enrichment and violation of rights of publicity arising from allegations that Pandora owes royalties for the public performance of pre-1972 recordings. The *Sheridan* actions in California and New Jersey are currently stayed pending the Ninth Circuit's decision in *Flo & Eddie, Inc. v. Pandora Media, Inc* .

In September 2016, Ponderosa Twins Plus One and others filed a class action suit against Pandora alleging claims similar to those asserted in *Flo & Eddie, Inc. v. Pandora Media Inc* . This action is also currently stayed in the Northern District of California pending the Ninth Circuit's decision in *Flo & Eddie, Inc. v. Pandora Media, Inc* .

The MMA grants a newly available federal preemption defense to the claims asserted in the aforementioned lawsuits. In July 2019, Pandora made the required payments and reporting under the MMA for certain of its uses of pre-1972 recordings to avail itself of this federal preemption defense. Based on the federal preemption contained in the MMA (along with other considerations), Pandora has asked the Ninth Circuit to order the dismissal of the *Flo & Eddie, Inc. v. Pandora Media, Inc.* case. When the stays in the remaining cases-the two *Sheridan v. Pandora Media* , Inc. cases and the *Ponderosa Twins Plus One et al. v. Pandora Media* case-are lifted, Pandora expects to file motions to dismiss those actions as well.

We believe we have substantial defenses to the claims asserted in these actions, and we intend to defend these actions vigorously.

Other Matters . In the ordinary course of business, we are a defendant in various other lawsuits and arbitration proceedings, including derivative actions; actions filed by subscribers, both on behalf of themselves and on a class action basis; former employees; parties to contracts or leases; owners of patents, trademarks, copyrights or other intellectual property and certain contingencies related to Pandora. None of these other matters, in our opinion, is likely to have a material adverse effect on our business, financial condition or results of operations.

ITEM 1A. RISK FACTORS

We completed our acquisition of Pandora on February 1, 2019. In connection with our acquisition of Pandora, we amended and restated the risk factors that appear in Part I, "Item 1A. Risk Factors," in our Annual Report on Form 10-K for the year ended December 31, 2018 to give effect to such acquisition. Those amended and restated risk factors appear in Part I, "Item 1A. Risk Factors," in our Quarterly Report on Form 10-Q for the three months ended March 31, 2019.

ITEM 2. UNREGISTERED SALES OF EQUITY SECURITIES AND USE OF PROCEEDS

As of June 30, 2019 , our board of directors had authorized for repurchase an aggregate of $14.0 billion of our common stock. Our board of directors did not establish an end date for this stock repurchase program. Shares of common stock may be purchased from time to time on the open market, pursuant to pre-set trading plans meeting the requirements of Rule 10b5-1 under the Exchange Act, in privately negotiated transactions, including transactions with Liberty Media and its affiliates, or otherwise. As of June 30, 2019 , our cumulative repurchases since December 2012 under our stock repurchase program totaled 2.9 billion shares for $12.2 billion , and $1.8 billion remained available under our stock repurchase program. The size and timing of these purchases will be based on a number of factors, including price and business and market conditions.

The following table provides information about our purchases of equity securities registered pursuant to Section 12 of the Exchange Act, as amended, during the quarter ended June 30, 2019 :

Period	Total Number of Shares Purchased	Average Price Paid Per Share (a)	Total Number of Shares Purchased as Part of Publicly Announced Plans or Programs	Approximate Dollar Value of Shares that May Yet Be Purchased Under the Plans or Programs (a)
April 1, 2019 - April 30, 2019	52,500,000	$ 5.94	52,500,000	$ 2,409,961,027
May 1, 2019 - May 31, 2019	55,000,000	$ 5.62	55,000,000	$ 2,100,589,777
June 1, 2019 - June 30, 2019	50,000,000	$ 5.53	50,000,000	$ 1,824,287,027
Total	157,500,000	$ 5.70	157,500,000	

(a) These amounts include fees and commissions associated with the shares repurchased.

ITEM 3. DEFAULTS UPON SENIOR SECURITIES

Not applicable.

ITEM 4. MINE SAFETY DISCLOSURES

Not applicable.

ITEM 5. OTHER INFORMATION

None.

ITEM 6. EXHIBITS

See Exhibit Index attached hereto, which is incorporated herein by reference.

EXHIBIT INDEX

Exhibit	Description
4.1	Indenture, dated as of June 7, 2019, relating to the 5.500% Senior Notes due 2029, between Sirius XM Radio Inc., the guarantors named therein and U.S. Bank National Association, as trustee (incorporated by reference to Exhibit 4.1 to Sirius XM Holdings Inc.'s Current Report on Form 8-K filed on June 7, 2019 (File No. 001-34295)).
4.2	Indenture, dated as of July 2, 2019, relating to the 4.625% Senior Notes due 2024, between Sirius XM Radio Inc., the guarantors named therein and U.S. Bank National Association, as trustee (incorporated by reference to Exhibit 4.1 to Sirius XM Holdings Inc.'s Current Report on Form 8-K filed on July 2, 2019 (File No. 001-34295)).
31.1	Certificate of James E. Meyer, Chief Executive Officer, pursuant to Section 302 of the Sarbanes-Oxley Act of 2002 (filed herewith).
31.2	Certificate of David J. Frear, Senior Executive Vice President and Chief Financial Officer, pursuant to Section 302 of the Sarbanes-Oxley Act of 2002 (filed herewith).
32.1	Certificate of James E. Meyer, Chief Executive Officer, pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002 (furnished herewith).
32.2	Certificate of David J. Frear, Senior Executive Vice President and Chief Financial Officer, pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002 (furnished herewith).
101.1	The following financial information from our Quarterly Report on Form 10-Q for the quarter ended June 30, 2019 formatted in eXtensible Business Reporting Language (XBRL): (i) Consolidated Statements of Comprehensive Income (Unaudited) for the three and six months ended June 30, 2019 and 2018; (ii) Consolidated Balance Sheets as of June 30, 2019 (Unaudited) and December 31, 2018; (iii) Consolidated Statements of Stockholders' Equity (Deficit) for the three and six months ended June 30, 2019 and 2018 (Unaudited); (iv) Consolidated Statements of Cash Flows (Unaudited) for the six months ended June 30, 2019 and 2018; and (v) Notes to Consolidated Financial Statements (Unaudited).

The agreements and other documents filed as exhibits to this report are not intended to provide factual information or other disclosure other than with respect to the terms of the agreements or other documents themselves, and you should not rely on them for that purpose. In particular, any representations and warranties made by us in these agreements or other documents were made solely within the specific context of the relevant agreement or document and may not describe the actual state of affairs for any other purpose as of the date they were made or at any other time.

SIGNATURES

Pursuant to the requirements of Section 13 or 15(d) of the Securities Exchange Act of 1934, the registrant has duly caused this report to be signed on its behalf by the undersigned, thereunto duly authorized on this 30th day of July 2019 .

SIRIUS XM HOLDINGS INC.

By: /s/ D AVID J. F REAR

David J. Frear
Senior Executive Vice President and
Chief Financial Officer
(Principal Financial Officer and Authorized Officer)

COEX-
8.32

Exhibit 31.1

CERTIFICATION OF CHIEF EXECUTIVE OFFICER

I, James E. Meyer, certify that:

1. I have reviewed this Quarterly Report on Form 10-Q for the quarterly period ended June 30, 2019 of Sirius XM Holdings Inc.;

2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;

3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this report;

4. The registrant's other certifying officer and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the registrant and have:

   (a) Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;

   (b) Designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;

   (c) Evaluated the effectiveness of the registrant's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and

   (d) Disclosed in this report any change in the registrant's internal control over financial reporting that occurred during the registrant's most recent fiscal quarter (the registrant's fourth fiscal quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, the registrant's internal control over financial reporting; and

5. The registrant's other certifying officer and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant's auditors and the audit committee of the registrant's board of directors (or persons performing the equivalent functions):

   (a) all significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant's ability to record, process, summarize and report financial information; and

   (b) any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal control over financial reporting.

By: /s/ James E. Meyer

James E. Meyer
Chief Executive Officer
(Principal Executive Officer)

July 30, 2019

COEX-
8.32

Exhibit 31.2

CERTIFICATION OF CHIEF FINANCIAL OFFICER

I, David J. Frear, certify that:

1. I have reviewed this Quarterly Report on Form 10-Q for the quarterly period ended June 30, 2019 of Sirius XM Holdings Inc.;

2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;

3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this report;

4. The registrant's other certifying officer and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the registrant and have:

   (a) Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;

   (b) Designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;

   (c) Evaluated the effectiveness of the registrant's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and

   (d) Disclosed in this report any change in the registrant's internal control over financial reporting that occurred during the registrant's most recent fiscal quarter (the registrant's fourth fiscal quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, the registrant's internal control over financial reporting; and

5. The registrant's other certifying officer and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant's auditors and the audit committee of the registrant's board of directors (or persons performing the equivalent functions):

   (a) all significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant's ability to record, process, summarize and report financial information; and

   (b) any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal control over financial reporting.

By: /s/ David J. Frear

David J. Frear
Senior Executive Vice President and
Chief Financial Officer
(Principal Financial Officer)

July 30, 2019

COEX-
8.32

Exhibit 32.1

CERTIFICATION PURSUANT TO
18 U.S.C. SECTION 1350,
AS ADOPTED PURSUANT TO
SECTION 906 OF THE SARBANES-OXLEY
ACT OF 2002

In connection with the Quarterly Report of Sirius XM Holdings Inc. (the "Company") on Form 10-Q for the quarterly period ended June 30, 2019 as filed with the Securities and Exchange Commission on the date hereof (the "Report"), I, James E. Meyer, Chief Executive Officer of the Company, certify, pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002, that:

(1) The Report fully complies with the requirements of Section 13(a) or 15(d) of the Securities Exchange Act of 1934; and

(2) The information contained in the Report fairly presents, in all material respects, the financial condition and results of operations of the Company.

By: /s/ J AMES E. M EYER

James E. Meyer
Chief Executive Officer
(Principal Executive Officer)

July 30, 2019

A signed original of this written statement required by Section 906, or other document authenticating, acknowledging, or otherwise adopting the signature that appears in typed form within the electronic version of this written statement required by Section 906, has been provided to the Company and will be retained by the Company and furnished to the Securities and Exchange Commission or its staff upon request.

COEX-
8.32

Exhibit 32.2

CERTIFICATION PURSUANT TO
18 U.S.C. SECTION 1350,
AS ADOPTED PURSUANT TO
SECTION 906 OF THE SARBANES-OXLEY
ACT OF 2002

In connection with the Quarterly Report of Sirius XM Holdings Inc. (the "Company") on Form 10-Q for the quarterly period ended June 30, 2019 as filed with the Securities and Exchange Commission on the date hereof (the "Report"), I, David J. Frear, Senior Executive Vice President and Chief Financial Officer of the Company, certify, pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002, that:

(1) The Report fully complies with the requirements of Section 13(a) or 15(d) of the Securities Exchange Act of 1934; and

(2) The information contained in the Report fairly presents, in all material respects, the financial condition and results of operations of the Company.

By: /s/ D AVID J. F REAR

David J. Frear
Senior Executive Vice President and
Chief Financial Officer
(Principal Financial Officer)

July 30, 2019

A signed original of this written statement required by Section 906, or other document authenticating, acknowledging, or otherwise adopting the signature that appears in typed form within the electronic version of this written statement required by Section 906, has been provided to the Company and will be retained by the Company and furnished to the Securities and Exchange Commission or its staff upon request.

COEX-
8.32

UNITED STATES
SECURITIES AND EXCHANGE COMMISSION
WASHINGTON, D.C. 20549

FORM 10-Q

☑ **QUARTERLY REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934**

FOR THE QUARTERLY PERIOD ENDED JUNE 30, 2020
OR

☐ **TRANSITION REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934**

FOR THE TRANSITION PERIOD FROM _____ TO _____
COMMISSION FILE NUMBER 001-34295

SIRIUS XM HOLDINGS INC.

(Exact name of registrant as specified in its charter)

Delaware	**38-3916511**
(State or other jurisdiction of incorporation or organization)	*(I.R.S. Employer Identification No.)*

1221 Avenue of the Americas, 35th Floor, New York, NY
(Address of Principal Executive Offices)
10020
(Zip Code)

Registrant's telephone number, including area code: (212) 584-5100
Former name, former address and former fiscal year, if changed since last report: Not Applicable
Securities registered pursuant to Section 12(b) of the Act:

Title of each class	Trading Symbol(s)	Name of exchange on which registered
Common stock, $0.001 par value	**SIRI**	**NASDAQ Global Select Market**

Indicate by check mark whether the registrant (1) has filed all reports required to be filed by Section 13 or 15(d) of the Securities Exchange Act of 1934 during the preceding 12 months (or for such shorter period that the registrant was required to file such reports) and (2) has been subject to such filing requirements for the past 90 days. Yes ☑ No ☐

Indicate by check mark whether the registrant has submitted electronically every Interactive Data File required to be submitted pursuant to Rule 405 of Regulation S-T during the preceding 12 months (or for such shorter period that the registrant was required to submit such files). Yes ☑ No ☐

Indicate by check mark whether the registrant is a large accelerated filer, an accelerated filer, a non-accelerated filer, a smaller reporting company or an emerging growth company. See the definitions of "large accelerated filer," "accelerated filer", "smaller reporting company" and "emerging growth company" in Rule 12b-2 of the Exchange Act.:

Large accelerated filer	☑	Accelerated filer	☐	Non-accelerated filer	☐
Smaller reporting company	☐	Emerging growth company	☐		

If an emerging growth company, indicate by check mark if the registrant has elected not to use the extended transition period for complying with any new or revised financial accounting standards provided pursuant to Section 13(a) of the Exchange Act. ☐

Indicate by check mark whether the registrant is a shell company (as defined in Rule 12b-2 of the Act). Yes ☐ No ☑

Indicate the number of shares outstanding of each of the issuer's classes of common stock, as of the latest practicable date.

(Class)	(Outstanding as of July 28, 2020)	
Common stock, $0.001 par value	**4,340,289,704**	**shares**

SIRIUS XM HOLDINGS INC. AND SUBSIDIARIES
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SIRIUS XM HOLDINGS INC. AND SUBSIDIARIES
CONSOLIDATED STATEMENTS OF COMPREHENSIVE INCOME
(UNAUDITED)

(in millions, except per share data)	For the Three Months Ended June 30,		For the Six Months Ended June 30,	
	2020	**2019**	**2020**	**2019**
Revenue:				
Subscriber revenue	$ 1,578	$ 1,537	$ 3,163	$ 2,995
Advertising revenue	236	358	521	567
Equipment revenue	25	41	66	82
Other revenue	35	41	76	77
Total revenue	1,874	1,977	3,826	3,721
Operating expenses:				
Cost of services:				
Revenue share and royalties	587	600	1,157	1,092
Programming and content	110	116	228	222
Customer service and billing	122	120	240	233
Transmission	43	40	83	71
Cost of equipment	4	6	8	12
Subscriber acquisition costs	48	104	147	212
Sales and marketing	217	232	442	415
Engineering, design and development	61	74	132	128
General and administrative	119	120	226	255
Depreciation and amortization	124	119	256	226
Acquisition and restructuring costs	24	7	24	83
Total operating expenses	1,459	1,538	2,943	2,949
Income from operations	415	439	883	772
Other (expense) income:				
Interest expense	(102)	(97)	(201)	(187)
Loss on extinguishment of debt	—	—	—	(1)
Other income (expense)	4	(3)	8	(2)
Total other (expense) income	(98)	(100)	(193)	(190)
Income before income taxes	317	339	690	582
Income tax expense	(74)	(76)	(154)	(157)
Net income	$ 243	$ 263	$ 536	$ 425
Foreign currency translation adjustment, net of tax	10	7	(15)	14
Total comprehensive income	$ 253	$ 270	$ 521	$ 439
Net income per common share:				
Basic	$ 0.06	$ 0.06	$ 0.12	$ 0.09
Diluted	$ 0.05	$ 0.06	$ 0.12	$ 0.09
Weighted average common shares outstanding:				
Basic	4,369	4,568	4,387	4,569
Diluted	4,457	4,675	4,487	4,677

See accompanying notes to the unaudited consolidated financial statements.

SIRIUS XM HOLDINGS INC. AND SUBSIDIARIES
CONSOLIDATED BALANCE SHEETS

(in millions, except per share data)	June 30, 2020	December 31, 2019
ASSETS	**(unaudited)**	
Current assets:		
Cash and cash equivalents	$ 1,770	$ 106
Receivables, net	497	670
Inventory, net	12	11
Related party current assets	11	22
Prepaid expenses and other current assets	205	194
Total current assets	2,495	1,003
Property and equipment, net	1,592	1,626
Intangible assets, net	3,398	3,467
Goodwill	3,860	3,843
Related party long-term assets	512	452
Deferred tax assets	41	153
Operating lease right-of-use assets	438	466
Other long-term assets	129	139
Total assets	$ 12,465	$ 11,149
LIABILITIES AND STOCKHOLDERS' EQUITY (DEFICIT)		
Current liabilities:		
Accounts payable and accrued expenses	$ 1,022	$ 1,151
Accrued interest	157	160
Current portion of deferred revenue	1,833	1,930
Current maturities of debt	1,492	2
Operating lease current liabilities	46	46
Related party current liabilities	2	4
Total current liabilities	4,552	3,293
Long-term deferred revenue	123	130
Long-term debt	7,841	7,842
Deferred tax liabilities	70	70
Operating lease liabilities	430	456
Other long-term liabilities	117	94
Total liabilities	13,133	11,885
Commitments and contingencies (Note 16)		
Stockholders' equity (deficit):		
Common stock, par value $0.001 per share; 9,000 shares authorized; 4,355 and 4,412 shares issued; 4,353 and 4,412 shares outstanding at June 30, 2020 and December 31, 2019, respectively	4	4
Accumulated other comprehensive (loss) income, net of tax	(7)	8
Additional paid-in capital	(49)	395
Treasury stock, at cost; 2 and 0 shares of common stock at June 30, 2020 and December 31, 2019, respectively	(9)	—
Accumulated deficit	(607)	(1,143)
Total stockholders' equity (deficit)	(668)	(736)
Total liabilities and stockholders' equity (deficit)	$ 12,465	$ 11,149

See accompanying notes to the unaudited consolidated financial statements.

SIRIUS XM HOLDINGS INC. AND SUBSIDIARIES
CONSOLIDATED STATEMENT OF STOCKHOLDERS' EQUITY (DEFICIT)
(UNAUDITED)

For the Six Months Ended June 30, 2020

(in millions)	Common Stock		Accumulated Other Comprehensive Income (Loss)	Additional Paid-in Capital	Treasury Stock		Accumulated Deficit	Total Stockholders' Equity (Deficit)
	Shares	Amount			Shares	Amount		
Balance at December 31, 2019	4,412	$ 4	$ 8	$ 395	—	$ —	$ (1,143)	$ (736)
Comprehensive income, net of tax	—	—	(15)	—	—	—	536	521
Share-based payment expense	—	—	—	115	—	—	—	115
Exercise of stock options and vesting of restricted stock units	11	—	—	—	—	—	—	—
Withholding taxes on net share settlement of stock-based compensation	—	—	—	(43)	—	—	—	(43)
Cash dividends paid on common stock, $0.02662 per share	—	—	—	(117)	—	—	—	(117)
Common stock repurchased	—	—	—	—	70	(408)	—	(408)
Common stock retired	(68)	—	—	(399)	(68)	399	—	—
Balance at June 30, 2020	4,355	$ 4	$ (7)	$ (49)	2	$ (9)	$ (607)	$ (668)

See accompanying notes to the unaudited consolidated financial statements.

SIRIUS XM HOLDINGS INC. AND SUBSIDIARIES
CONSOLIDATED STATEMENT OF STOCKHOLDERS' EQUITY (DEFICIT)
(UNAUDITED)

For the Three Months Ended June 30, 2020

(in millions)	Common Stock Shares	Common Stock Amount	Accumulated Other Comprehensive Income (Loss)	Additional Paid-in Capital	Treasury Stock Shares	Treasury Stock Amount	Accumulated Deficit	Total Stockholders' Equity (Deficit)
Balance at March 31, 2020	4,379	$ 4	$ (17)	$ 116	—	$ —	$ (850)	$ (747)
Comprehensive income, net of tax	—	—	10	—	—	—	243	253
Share-based payment expense	—	—	—	56	—	—	—	56
Exercise of stock options and vesting of restricted stock units	3	—	—	—	—	—	—	—
Withholding taxes on net share settlement of stock-based compensation	—	—	—	(7)	—	—	—	(7)
Cash dividends paid on common stock, $0.01331 per share	—	—	—	(58)	—	—	—	(58)
Common stock repurchased	—	—	—	—	29	(165)	—	(165)
Common stock retired	(27)	—	—	(156)	(27)	156	—	—
Balance at June 30, 2020	4,355	$ 4	$ (7)	$ (49)	2	$ (9)	$ (607)	$ (668)

See accompanying notes to the unaudited consolidated financial statements.

SIRIUS XM HOLDINGS INC. AND SUBSIDIARIES
CONSOLIDATED STATEMENT OF STOCKHOLDERS' EQUITY (DEFICIT)
(UNAUDITED)

For the Six Months Ended June 30, 2019

(in millions)	Common Stock Shares	Common Stock Amount	Accumulated Other Comprehensive Income (Loss)	Additional Paid-in Capital	Treasury Stock Shares	Treasury Stock Amount	Accumulated Deficit	Total Stockholders' Equity (Deficit)
Balance at December 31, 2018	4,346	$ 4	$ (6)	$ 242	—	$ —	$ (2,057)	$ (1,817)
Comprehensive income, net of tax	—	—	14	—	—	—	425	439
Share-based payment expense	—	—	—	134	—	—	—	134
Exercise of stock options and vesting of restricted stock units	13	—	—	—	—	—	—	—
Withholding taxes on net share settlement of stock-based compensation	—	—	—	(47)	—	—	—	(47)
Cash dividends paid on common stock, $0.0242 per share	—	—	—	(113)	—	—	—	(113)
Issuance of common stock as part of Pandora Acquisition	392	1	—	2,354	—	—	—	2,355
Equity component of convertible note	—	—	—	62	—	—	—	62
Common stock repurchased	—	—	—	—	259	(1,502)	—	(1,502)
Common stock retired	(254)	(1)	—	(1,473)	(254)	1,474	—	—
Balance at June 30, 2019	4,497	$ 4	$ 8	$ 1,159	5	$ (28)	$ (1,632)	$ (489)

See accompanying notes to the unaudited consolidated financial statements.

SIRIUS XM HOLDINGS INC. AND SUBSIDIARIES
CONSOLIDATED STATEMENT OF STOCKHOLDERS' EQUITY (DEFICIT)
(UNAUDITED)

For the Three Months Ended June 30, 2019

(in millions)	Common Stock		Accumulated Other Comprehensive Income (Loss)	Additional Paid-in Capital	Treasury Stock		Accumulated Deficit	Total Stockholders' Equity (Deficit)
	Shares	Amount			Shares	Amount		
Balance at March 31, 2019	4,650	$ 5	$ 1	$ 2,071	5	$ (28)	$ (1,895)	$ 154
Comprehensive income, net of tax	—	—	7	—	—	—	263	270
Share-based payment expense	—	—	—	60	—	—	—	60
Exercise of stock options and vesting of restricted stock units	5	—	—	—	—	—	—	—
Withholding taxes on net share settlement of stock-based compensation	—	—	—	(13)	—	—	—	(13)
Cash dividends paid on common stock, $0.0121 per share	—	—	—	(56)	—	—	—	(56)
Equity component of convertible note	—	—	—	(6)	—	—	—	(6)
Common stock repurchased	—	—	—	—	158	(898)	—	(898)
Common stock retired	(158)	(1)	—	(897)	(158)	898	—	—
Balance at June 30, 2019	4,497	$ 4	$ 8	$ 1,159	5	$ (28)	$ (1,632)	$ (489)

See accompanying notes to the unaudited consolidated financial statements.

SIRIUS XM HOLDINGS INC. AND SUBSIDIARIES
CONSOLIDATED STATEMENTS OF CASH FLOWS
(UNAUDITED)

(in millions)	For the Six Months Ended June 30, 2020	2019
Cash flows from operating activities:		
Net income	$ 536	$ 425
Adjustments to reconcile net income to net cash provided by operating activities:		
Depreciation and amortization	256	226
Non-cash interest expense, net of amortization of premium	10	7
Provision for doubtful accounts	38	27
Amortization of deferred income related to equity method investment	(1)	(1)
Loss on extinguishment of debt	—	1
Loss on unconsolidated entity investments, net	3	10
Dividend received from unconsolidated entity investment	1	1
Loss on restructuring	24	—
Loss (gain) on other investments	1	(3)
Share-based payment expense	107	127
Deferred income taxes	116	146
Amortization of right-of-use assets	28	2
Changes in operating assets and liabilities:		
Receivables	134	(69)
Inventory	(4)	6
Related party, net	9	(1)
Prepaid expenses and other current assets	(13)	(20)
Other long-term assets	10	7
Accounts payable and accrued expenses	(136)	36
Accrued interest	(3)	6
Deferred revenue	(105)	(4)
Operating lease liabilities	(26)	7
Other long-term liabilities	22	5
Net cash provided by operating activities	1,007	941
Cash flows from investing activities:		
Additions to property and equipment	(149)	(160)
Purchases of other investments	(7)	(7)
Acquisition of business, net of cash acquired	(28)	313
Sale of short-term investments	—	72
Investments in related parties and other equity investees	(84)	(9)
Repayment from related party	3	—
Net cash (used in) provided by investing activities	(265)	209
Cash flows from financing activities:		
Proceeds from exercise of stock options	—	1
Taxes paid from net share settlements for stock-based compensation	(43)	(47)
Revolving credit facility, net of deferred financing costs	—	(439)
Proceeds from long-term borrowings, net of costs	1,483	1,236
Proceeds from sale of capped call security	—	3
Principal payments of long-term borrowings	(5)	(156)
Common stock repurchased and retired	(399)	(1,474)
Dividends paid	(117)	(113)
Net cash provided by (used in) financing activities	919	(989)
Net increase in cash, cash equivalents and restricted cash	1,661	161
Cash, cash equivalents and restricted cash at beginning of period	120	65

Cash, cash equivalents and restricted cash at end of period [1]	$	1,781	$ 226

COEX-8.32

See accompanying notes to the unaudited consolidated financial statements.

SIRIUS XM HOLDINGS INC. AND SUBSIDIARIES
CONSOLIDATED STATEMENTS OF CASH FLOWS - Continued
(UNAUDITED)

(in millions)	For the Six Months Ended June 30, 2020	2019
Supplemental Disclosure of Cash and Non-Cash Flow Information		
Cash paid during the period for:		
Interest, net of amounts capitalized	$ 194	$ 171
Income taxes paid	$ 10	$ 5
Non-cash investing and financing activities:		
Treasury stock not yet settled	$ (9)	$ (28)
Fair value of shares issued related to acquisition of a business	$ —	$ 2,355
Accumulated other comprehensive (loss) income, net of tax	$ (15)	$ 14

(1) The following table reconciles cash, cash equivalents and restricted cash per the statement of cash flows to the balance sheet. The restricted cash balances are primarily due to letters of credit which have been issued to the landlords of leased office space. The terms of the letters of credit primarily extend beyond one year.

(in millions)	June 30, 2020	December 31, 2019	June 30, 2019	December 31, 2018
Cash and cash equivalents	$ 1,770	$ 106	$ 215	$ 54
Restricted cash included in Other long-term assets	11	14	11	11
Total cash, cash equivalents and restricted cash at end of period	$ 1,781	$ 120	$ 226	$ 65

See accompanying notes to the unaudited consolidated financial statements.

SIRIUS XM HOLDINGS INC. AND SUBSIDIARIES
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS
(UNAUDITED)
(Dollars and shares in millions, except per share amounts)

(1) Business & Basis of Presentation

This Quarterly Report on Form 10-Q presents information for Sirius XM Holdings Inc. and its subsidiaries (collectively "Holdings"). The terms "Holdings," "we," "us," "our," and "our company" as used herein, and unless otherwise stated or indicated by context, refer to Sirius XM Holdings Inc. and its subsidiaries. "Sirius XM" refers to our wholly owned subsidiary Sirius XM Radio Inc. and its subsidiaries. "Pandora" refers to Sirius XM's wholly owned subsidiary Pandora Media, LLC (the successor to Pandora Media, Inc.) and its subsidiaries. Holdings has no operations independent of Sirius XM and Pandora.

Business

We operate two complementary audio entertainment businesses - our Sirius XM business and our Pandora business.

Sirius XM

Our Sirius XM business features music, sports, entertainment, comedy, talk, news, traffic and weather channels, as well as infotainment services, in the United States on a subscription fee basis. The Sirius XM service is distributed through our two proprietary satellite radio systems and through the internet via applications for mobile devices, home devices and other consumer electronic equipment. Satellite radios are primarily distributed through automakers, retailers and our website. Our Sirius XM service is also available through our user interface, which we call "360L," that combines our satellite and streaming services into a single, cohesive in-vehicle entertainment experience. The primary source of revenue from our Sirius XM business is generated from subscription fees, with most of our customers subscribing to monthly, quarterly, semi-annual or annual plans. We also derive revenue from advertising on select non-music channels, direct sales of our satellite radios and accessories, and other ancillary services. As of June 30, 2020, our Sirius XM business had approximately 34.3 million subscribers.

In addition to our audio entertainment businesses, we provide connected vehicle services to several automakers. These services are designed to enhance the safety, security and driving experience of consumers. We also offer a suite of data services that includes graphical weather, fuel prices, sports schedules and scores and movie listings, a traffic information service that includes information as to road closings, traffic flow and incident data to consumers with compatible in-vehicle navigation systems, and real-time weather services in vehicles, boats and planes.

In May 2020, we terminated the Automatic Labs Inc. ("Automatic") service, which was part of our connected services business. Automatic operated a service for consumers and auto dealers and offered an install-it-yourself adapter and mobile application, which transformed older vehicles into connected vehicles. During the three and six months ended June 30, 2020, we recorded $24 of restructuring expenses in our unaudited consolidated statements of comprehensive income related to this termination of the service. Refer to Note 4 for more information.

Sirius XM also holds a 70% equity interest and 33% voting interest in Sirius XM Canada Holdings Inc. ("Sirius XM Canada"). Sirius XM Canada's subscribers are not included in our subscriber count or subscriber-based operating metrics.

Pandora

Our Pandora business operates a music, comedy and podcast streaming discovery platform, offering a personalized experience for each listener wherever and whenever they want to listen, whether through mobile devices, car speakers or connected devices. Pandora enables listeners to create personalized stations and playlists, discover new content, hear artist- and expert-curated playlists, podcasts and select Sirius XM content as well as search and play songs and albums on-demand. Pandora is available as an ad-supported radio service, a radio subscription service, called Pandora Plus, and an on-demand subscription service, called Pandora Premium. As of June 30, 2020, Pandora had approximately 6.3 million subscribers. The majority of revenue from our Pandora business is generated from advertising on our Pandora ad-supported radio service. In addition, Pandora has an arrangement with SoundCloud Holdings, LLC ("SoundCloud") to be its exclusive US ad sales representative. Through this arrangement Pandora is able to offer advertisers the ability to execute campaigns in the US across the Pandora and SoundCloud listening platforms. In addition, through AdsWizz Inc., Pandora provides a comprehensive digital audio and programmatic advertising technology platform, which connects audio publishers and advertisers with a variety of ad insertion, campaign trafficking, yield optimization, programmatic buying, marketplace and podcast monetization solutions.

SIRIUS XM HOLDINGS INC. AND SUBSIDIARIES
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS - Continued
(UNAUDITED)
(Dollars and shares in millions, except per share amounts)

On June 16, 2020, Sirius XM acquired Simplecast for $28 in cash. Simplecast is a podcast management and analytics platform, powering podcasts from creators and brands. Refer to Note 3 for more information on this acquisition.

On February 10, 2020, Sirius XM invested $75 in SoundCloud. SoundCloud is the world's largest open audio platform, with a connected community of creators, listeners, and curators. SoundCloud's platform enables its users to upload, promote, share and create audio entertainment. The minority investment complements the existing ad sales relationship between SoundCloud and Pandora. Refer to Note 12 for more information on this investment.

Impact of the coronavirus ("COVID-19") pandemic

The extent to which the COVID-19 pandemic and the related economic impact may affect our financial condition or results of operations is uncertain. The extent of the impact on our operational and financial performance will depend on various factors, including the duration and spread of the outbreak and its impact on vehicle sales, advertising and consumer spending. To date, the pandemic has not increased our costs of or access to capital under our revolving credit facility and debt markets, and we do not believe it is reasonably likely to in the future. In addition, we do not believe that the pandemic will affect our ongoing ability to meet the covenants in our debt instruments, including under our revolving credit facility. Due to the nature of our subscription business, the effect of the COVID-19 pandemic will not be fully reflected in our results of operations until future periods.

Liberty Media

As of June 30, 2020, Liberty Media Corporation ("Liberty Media") beneficially owned, directly and indirectly, approximately 73% of the outstanding shares of our common stock. As a result, we are a "controlled company" for the purposes of the NASDAQ corporate governance requirements.

Basis of Presentation

The accompanying unaudited consolidated financial statements of Holdings have been prepared in accordance with U.S. generally accepted accounting principles ("GAAP"). All significant intercompany transactions have been eliminated in consolidation. Certain numbers in our prior period consolidated financial statements and footnotes have been reclassified or consolidated to conform to our current period presentation.

In the opinion of our management, all normal recurring adjustments necessary for a fair presentation of our unaudited consolidated financial statements as of June 30, 2020 and for the three and six months ended June 30, 2020 and 2019 have been made.

Interim results are not necessarily indicative of the results that may be expected for a full year. This Quarterly Report on Form 10-Q should be read together with our Annual Report on Form 10-K for the year ended December 31, 2019, which was filed with the SEC on February 4, 2020.

Public companies are required to disclose certain information about their reportable operating segments. Operating segments are defined as significant components of an enterprise for which separate financial information is available and is evaluated on a regular basis by the chief operating decision maker in deciding how to allocate resources to an individual segment and in assessing performance of the segment. We have determined that we have two reportable segments as our chief operating decision maker, our Chief Executive Officer, assesses performance and allocates resources based on the financial results of these segments. Refer to Note 18 for information related to our segments.

We have evaluated events subsequent to the balance sheet date and prior to the filing of this Quarterly Report on Form 10-Q for the three and six months ended June 30, 2020 and have determined that no events have occurred that would require adjustment to our unaudited consolidated financial statements. For a discussion of subsequent events that do not require adjustment to our unaudited consolidated financial statements refer to Note 19.

Use of Estimates

The preparation of financial statements in conformity with GAAP requires management to make estimates and assumptions that affect the amounts reported in the financial statements and footnotes. Estimates, by their nature, are based on judgment and available information. Actual results could differ materially from those estimates. Significant estimates inherent in the preparation of the accompanying unaudited consolidated financial statements include asset impairment, depreciable lives of our satellites, share-based payment expense and income taxes.

We are not presently aware of any events or circumstances arising from the COVID-19 pandemic that would require us to update our estimates, judgments or revise the carrying value of our assets or liabilities. Our estimates may change, however, as new events occur and additional information is obtained, any such changes will be recognized in the consolidated financial statements. Actual results could differ from estimates, and any such differences may be material to our financial statements.

(2) Summary of Significant Accounting Policies

Fair Value Measurements

For assets and liabilities required to be reported at fair value, GAAP provides a hierarchy that prioritizes inputs to valuation techniques used to measure fair value into three broad levels. Level 1 inputs are based on unadjusted quoted prices in active markets for identical instruments. Level 2 inputs are inputs, other than quoted market prices included within Level 1, that are observable for the asset or liability, either directly or indirectly. Level 3 inputs are unobservable inputs for the asset or liability. As of June 30, 2020 and December 31, 2019, the carrying amounts of cash and cash equivalents, receivables and accounts payable approximated fair value due to the short-term nature of these instruments.

Our liabilities measured at fair value were as follows:

	June 30, 2020				December 31, 2019			
	Level 1	Level 2	Level 3	Total Fair Value	Level 1	Level 2	Level 3	Total Fair Value
Liabilities:								
Debt [(a)]	—	$ 9,655	—	$ 9,655	—	$ 8,378	—	$ 8,378

(a) The fair value for non-publicly traded debt is based upon estimates from a market maker and brokerage firm. Refer to Note 13 for information related to the carrying value of our debt as of June 30, 2020 and December 31, 2019.

Accumulated Other Comprehensive Income (Loss)

Accumulated other comprehensive loss of $7 was primarily comprised of the cumulative foreign currency translation adjustments related to our investment in and loan to Sirius XM Canada (refer to Note 12 for additional information). During the three and six months ended June 30, 2020, we recorded foreign currency translation adjustment income (loss) of $10 and $(15), respectively, net of tax (expense) benefit of $(3) and $5, respectively. During the three and six months ended June 30, 2019, we recorded foreign currency translation adjustment income of $7 and $14, respectively, net of a tax expense of $3 and $5, respectively.

Recently Adopted Accounting Policies

In August 2018, the Financial Accounting Standards Board ("FASB") issued ASU 2018-15, *Intangibles—Goodwill and Other—Internal-Use Software (Subtopic 350-40): Customer's Accounting for Implementation Costs Incurred in a Cloud Computing Arrangement That Is a Service Contract*. This ASU aligns the requirements for capitalizing implementation costs incurred in a hosting arrangement with the requirements for capitalizing implementation costs incurred to develop or obtain internal-use software. The implementation costs incurred in a hosting arrangement that is a service contract should be presented as a prepaid asset in the balance sheet and expensed over the term of the hosting arrangement to the same line item in the statement of income as the costs related to the hosting fees. The guidance in this ASU is effective for fiscal years beginning after December 15, 2019, including interim periods within those fiscal years, and early adoption is permitted including adoption in any interim period. The amendments will be applied prospectively to all implementation costs incurred after adoption. This ASU did not, and is not expected to, have a material impact on our consolidated statements of operations.

SIRIUS XM HOLDINGS INC. AND SUBSIDIARIES
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS - Continued
(UNAUDITED)
(Dollars and shares in millions, except per share amounts)

(3) Acquisitions

Simplecast

On June 16, 2020, Sirius XM acquired Simplecast for $28 in cash. Simplecast is a podcast management and analytics platform. In connection with the acquisition, we recognized goodwill of $17, amortizable intangible assets of $12, other assets of less than $1 and deferred tax liabilities of $1.

Pandora

On February 1, 2019, through a series of transactions, Pandora Media, Inc., became an indirect wholly owned subsidiary of Sirius XM and continues to operate as Pandora Media, LLC (the "Pandora Acquisition"). In connection with the Pandora Acquisition, we purchased all of the outstanding shares of the capital stock of Pandora for $2,355 by converting each outstanding share of Pandora common stock into 1.44 shares of our common stock and we also canceled our preferred stock investment in Pandora for $524 for total consideration of $2,879. Net cash acquired was $313. As part of the Pandora Acquisition, Holdings unconditionally guaranteed all of the payment obligations of Pandora under its outstanding 1.75% convertible senior notes due 2020 and 1.75% convertible senior notes due 2023.

The table below shows the value of the consideration paid in connection with the Pandora Acquisition:

		Total
Pandora common stock outstanding		272
Exchange ratio		1.44
Common stock issued		392
Price per share of Holdings common stock	$	5.83
Value of common stock issued to Pandora stockholders	$	2,285
Value of replacement equity awards attributable to pre-combination service	$	70
Consideration of common stock and replacement equity awards for pre-combination service	$	2,355
Sirius XM's Pandora preferred stock investment (related party fair value instrument) canceled	$	524
Total consideration for Pandora Acquisition	$	2,879
Value attributed to par at $0.001 par value	$	1
Balance to capital in excess of par value	$	2,354

We recognized acquisition related costs of $7 and $83 that were expensed in Acquisition and restructuring costs in our unaudited consolidated statements of comprehensive income during the three and six months ended June 30, 2019, respectively.

Pro Forma Financial Information

Pandora was consolidated into our financial statements starting on the acquisition date, February 1, 2019. The aggregate revenue and net loss of Pandora consolidated into our financial statements was $441 and $56, respectively, for the three months ended June 30, 2019 and $692 and $178, respectively, for the six months ended June 30, 2019. The following pro forma financial information presents our results as if the Pandora Acquisition had occurred on January 1, 2019:

	For the Three Months Ended June 30,		For the Six Months Ended June 30,	
	2020	2019	2020	2019
Total revenue	$ 1,876	$ 1,979	$ 3,830	$ 3,839
Net income	$ 243	$ 265	$ 536	$ 446

These pro forma results are based on estimates and assumptions, which we believe are reasonable. They are not the results that would have been realized had the acquisition actually occurred on January 1, 2019 and are not indicative of our consolidated results of operations in future periods. The pro forma results primarily include adjustments related to amortization of acquired intangible assets, depreciation of property and equipment, acquisition costs, fair value gain or loss on the Pandora investment and associated tax impacts.

SIRIUS XM HOLDINGS INC. AND SUBSIDIARIES
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS - Continued
(UNAUDITED)
(Dollars and shares in millions, except per share amounts)

(4) Restructuring Costs

In May 2020, we terminated the Automatic service, which was part of our connected services business. During the three and six months ended June 30, 2020, we recorded $24 of restructuring expenses primarily related to the write down of property and equipment, definite lived intangible assets and certain other assets in Acquisition and restructuring costs in our unaudited consolidated statements of comprehensive income. The termination of the Automatic service does not meet the requirements to be reported as a discontinued operation in our unaudited consolidated statements of comprehensive income because the termination of the service does not represent a strategic shift that will have a major effect on our operations and financial results.

(5) Earnings per Share

Basic net income per common share is calculated by dividing the income available to common stockholders by the weighted average common shares outstanding during each reporting period. Diluted net income per common share adjusts the weighted average number of common shares outstanding for the potential dilution that could occur if common stock equivalents (stock options, restricted stock units and convertible debt) were exercised or converted into common stock, calculated using the treasury stock method. We had no participating securities during the three and six months ended June 30, 2020 and 2019.

Common stock equivalents of 77 and 88 for the three months ended June 30, 2020 and 2019, respectively, and 60 and 71 for the six months ended June 30, 2020 and 2019, respectively, were excluded from the calculation of diluted net income per common share as the effect would have been anti-dilutive. We issued 392 shares of our common stock in connection with the Pandora Acquisition.

	For the Three Months Ended June 30,		For the Six Months Ended June 30,	
	2020	2019	2020	2019
Numerator:				
Net Income available to common stockholders for basic net income per common share	$ 243	$ 263	$ 536	$ 425
Effect of interest on assumed conversions of convertible notes, net of tax	2	2	4	3
Net Income available to common stockholders for dilutive net income per common share	$ 245	$ 265	$ 540	$ 428
Denominator:				
Weighted average common shares outstanding for basic net income per common share	4,369	4,568	4,387	4,569
Weighted average impact of assumed convertible notes	29	29	29	27
Weighted average impact of dilutive equity instruments	59	78	71	81
Weighted average shares for diluted net income per common share	4,457	4,675	4,487	4,677
Net income per common share:				
Basic	$ 0.06	$ 0.06	$ 0.12	$ 0.09
Diluted	$ 0.05	$ 0.06	$ 0.12	$ 0.09

(6) Receivables, net

Receivables, net, includes customer accounts receivable, receivables from distributors and other receivables. We do not have any customer receivables that individually represent more than ten percent of our receivables.

Customer accounts receivable, net, includes receivables from our subscribers, advertising customers and other customers, and is stated at amounts due, net of an allowance for doubtful accounts. Our allowance for doubtful accounts is based upon our assessment of various factors. We consider historical experience, the age of the receivable balances, current economic conditions, industry experience and other factors that may affect the counterparty's ability to pay. Bad debt expense is included in Customer service and billing expense in our unaudited consolidated statements of comprehensive income.

Receivables from distributors primarily include billed and unbilled amounts due from automakers for services included in the sale or lease price of vehicles, as well as billed amounts due from wholesale distributors of our satellite radios. Other receivables primarily include amounts due from manufacturers of our radios, modules and chipsets where we are entitled to subsidies and royalties based on the number of units produced. We have not established an allowance for doubtful accounts for our receivables from distributors or other receivables as we have historically not experienced any significant collection issues with automakers or other third parties.

Receivables, net, consists of the following:

	June 30, 2020	December 31, 2019
Gross customer accounts receivable	$ 413	$ 546
Allowance for doubtful accounts	(18)	(14)
Customer accounts receivable, net	$ 395	$ 532
Receivables from distributors	82	113
Other receivables	20	25
Total receivables, net	$ 497	$ 670

(7) Inventory, net

Inventory consists of finished goods, refurbished goods, chipsets and other raw material components used in manufacturing radios. Inventory is stated at the lower of cost or market. We record an estimated allowance for inventory that is considered slow moving or obsolete or whose carrying value is in excess of net realizable value. The provision related to products purchased for resale in our direct to consumer distribution channel and components held for resale by us is reported as a component of Cost of equipment in our unaudited consolidated statements of comprehensive income. The provision related to inventory consumed in our OEM channel is reported as a component of Subscriber acquisition costs in our unaudited consolidated statements of comprehensive income.

Inventory, net, consists of the following:

	June 30, 2020	December 31, 2019
Raw materials	$ —	$ 3
Finished goods	15	13
Allowance for obsolescence	(3)	(5)
Total inventory, net	$ 12	$ 11

(8) Goodwill

Goodwill represents the excess of the purchase price over the estimated fair value of the net tangible and identifiable intangible assets acquired in business combinations. Our annual impairment assessment of our two reporting units is performed as of the fourth quarter of each year, and an assessment is performed at other times if an event occurs or circumstances change that would more likely than not reduce the fair value of a reporting unit below its carrying amount. ASC 350, *Intangibles - Goodwill and Other*, states that an entity should perform its annual or interim goodwill impairment test by comparing the fair value of a reporting unit with its carrying amount and recognize an impairment charge for the amount by which the carrying amount exceeds the reporting unit's fair value. ASC 350 also states that a reporting unit with a zero or negative carrying amount is not required to perform a qualitative assessment. Our Sirius XM reporting unit, which has an allocated goodwill balance of $2,290, had a negative carrying amount as of June 30, 2020.

As of June 30, 2020, there were no indicators of impairment, and no impairment losses were recorded for goodwill during the three and six months ended June 30, 2020 and 2019. As of June 30, 2020, the cumulative balance of goodwill impairments recorded was $4,766, which was recognized during the year ended December 31, 2008 and is included in the carrying value of the goodwill allocated to our Sirius XM reporting unit.

SIRIUS XM HOLDINGS INC. AND SUBSIDIARIES
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS - Continued
(UNAUDITED)
(Dollars and shares in millions, except per share amounts)

As of June 30, 2020, the carrying amount of goodwill for our Sirius XM and Pandora reporting units was $2,290 and $1,570, respectively. We recorded additional goodwill of $17 during the three and six months ended June 30, 2020 related to the acquisition of Simplecast in June 2020 which was recorded to our Pandora reporting unit. As of December 31, 2019, the carrying amount of goodwill for our Sirius XM and Pandora reporting units was $2,290 and $1,553, respectively.

(9) Intangible Assets

Our intangible assets include the following:

		June 30, 2020			December 31, 2019		
	Weighted Average Useful Lives	Gross Carrying Value	Accumulated Amortization	Net Carrying Value	Gross Carrying Value	Accumulated Amortization	Net Carrying Value
Indefinite life intangible assets:							
FCC licenses	Indefinite	$ 2,084	$ —	$ 2,084	$ 2,084	$ —	$ 2,084
Trademarks	Indefinite	250	—	250	251	—	251
Definite life intangible assets:							
OEM relationships	15 years	220	(98)	122	220	(90)	130
Licensing agreements	12 years	45	(43)	2	45	(42)	3
Software and technology	7 years	30	(15)	15	35	(25)	10
Due to Pandora Acquisition:							
Indefinite life intangible assets:							
Trademarks	Indefinite	$ 331	$ —	$ 331	$ 331	$ —	$ 331
Definite life intangible assets:							
Customer relationships	8 years	403	(75)	328	403	(49)	354
Software and technology	5 years	373	(107)	266	373	(69)	304
Total intangible assets		$ 3,736	$ (338)	$ 3,398	$ 3,742	$ (275)	$ 3,467

Indefinite Life Intangible Assets

We have identified our FCC licenses and XM and Pandora trademarks as indefinite life intangible assets after considering the expected use of the assets, the regulatory and economic environment within which they are used and the effects of obsolescence on their use.

We hold FCC licenses to operate our satellite digital audio radio service and provide ancillary services. Each of the FCC licenses authorizes us to use radio spectrum, a reusable resource that does not deplete or exhaust over time.

Our annual impairment assessment of our identifiable indefinite lived intangible assets is performed as of the fourth quarter of each year. An assessment is performed at other times if an event occurs or circumstances change that would more likely than not reduce the fair value of the asset below its carrying value. If the carrying value of the intangible assets exceeds its fair value, an impairment loss is recognized in an amount equal to that excess. During the three and six months ended June 30, 2020, we recognized an impairment loss of less than $1 for intangible assets with indefinite lives related to the termination of the Automatic service. As of June 30, 2020, there were no other indicators of impairment. No impairment loss was recognized for intangible assets with indefinite lives during the three and six months ended June 30, 2019.

Definite Life Intangible Assets

Amortization expense for all definite life intangible assets was $38 for both the three months ended June 30, 2020 and 2019, and $76 and $65 for the six months ended June 30, 2020 and 2019, respectively. There were retirements of definite lived intangible assets of $17, which included a loss of $4, due to the termination of the Automatic service, during the six months ended June 30, 2020. As part of the Simplecast acquisition, $12 was allocated to identifiable intangible assets subject to amortization and related to the assessed fair value of software and technology, which was determined by using the multi-period excess earnings method, as of the acquisition date.

The expected amortization expense for each of the fiscal years 2020 through 2024 and for periods thereafter is as follows:

Years ending December 31,	Amount
2020 (remaining)	$ 74
2021	146
2022	146
2023	136
2024	70
Thereafter	161
Total definite life intangible assets, net	$ 733

(10) Property and Equipment

Property and equipment, net, consists of the following:

	June 30, 2020	December 31, 2019
Satellite system	$ 1,587	$ 1,587
Terrestrial repeater network	102	100
Leasehold improvements	106	105
Broadcast studio equipment	121	137
Capitalized software and hardware	1,175	1,086
Satellite telemetry, tracking and control facilities	92	87
Furniture, fixtures, equipment and other	91	89
Land	38	38
Building	63	63
Construction in progress	516	505
Total property and equipment	3,891	3,797
Accumulated depreciation and amortization	(2,299)	(2,171)
Property and equipment, net	$ 1,592	$ 1,626

Construction in progress consists of the following:

	June 30, 2020	December 31, 2019
Satellite system	$ 390	$ 371
Terrestrial repeater network	8	7
Capitalized software and hardware	109	107
Other	9	20
Construction in progress	$ 516	$ 505

Depreciation and amortization expense on property and equipment was $86 and $81 for the three months ended June 30, 2020 and 2019, respectively, and $180 and $161 for the six months ended June 30, 2020 and 2019, respectively. Property and equipment of $36 and $65, which included a loss of $13 related to the termination of the Automatic service, was retired during the three and six months ended June 30, 2020, respectively. There were no retirements of property and equipment during the three and six months ended June 30, 2019.

We capitalize a portion of the interest on funds borrowed to finance the construction and launch of our satellites. Capitalized interest is recorded as part of the asset's cost and depreciated over the satellite's useful life. Capitalized interest costs were $4 for both the three months ended June 30, 2020 and 2019, and $9 and $8 for the six months ended June 30, 2020 and 2019, respectively, which related to the construction of our SXM-7 and SXM-8 satellites. We also capitalize a portion of

share-based compensation related to employee time for capitalized software projects. Capitalized share-based compensation costs were $5 and $4 for the three months ended June 30, 2020 and 2019, respectively, and $8 and $7 for the six months ended June 30, 2020 and 2019, respectively.

Satellites

As of June 30, 2020, we owned a fleet of five satellites. Each satellite requires an FCC license, and prior to the expiration of each license, we are required to apply for a renewal of the FCC satellite license. The renewal and extension of our licenses is reasonably certain at minimal cost, which is expensed as incurred. The chart below provides certain information on our satellites as of June 30, 2020:

Satellite Description	Year Delivered	Estimated End of Depreciable Life	FCC License Expiration Year
SIRIUS FM-5	2009	2024	2025
SIRIUS FM-6	2013	2028	2022
XM-3	2005	2020	2021
XM-4	2006	2021	2022
XM-5	2010	2025	2026

(11) Leases

We have operating and finance leases for offices, terrestrial repeaters, data centers and certain equipment. Our leases have remaining lease terms of less than 1 year to 17 years, some of which may include options to extend the leases for up to 5 years, and some of which may include options to terminate the leases within 1 year. We elected the practical expedient to account for the lease and non-lease components as a single component. Additionally, we elected the practical expedient to not recognize right-of-use assets or lease liabilities for short-term leases, which are those leases with a term of twelve months or less at the lease commencement date.

The components of lease expense were as follows:

	For the Three Months Ended June 30,		For the Six Months Ended June 30,	
	2020	2019	2020	2019
Operating lease cost	$ 21	$ 21	$ 41	$ 38
Finance lease cost	1	2	1	3
Sublease income	(1)	(1)	(1)	(2)
Total lease cost	$ 21	$ 22	$ 41	$ 39

(12) Related Party Transactions

In the normal course of business, we enter into transactions with related parties such as Sirius XM Canada and SoundCloud.

Liberty Media

As of June 30, 2020, Liberty Media beneficially owned, directly and indirectly, approximately 73% of the outstanding shares of our common stock. Liberty Media has one executive, one senior advisor and one of its directors on our board of directors. Gregory B. Maffei, the President and Chief Executive Officer of Liberty Media, is the Chairman of our board of directors.

Sirius XM Canada

Sirius XM holds a 70% equity interest and 33% voting interest in Sirius XM Canada, a privately held corporation. We own 591 shares of preferred stock of Sirius XM Canada, which has a liquidation preference of one Canadian dollar per share. Sirius XM also made a loan to Sirius XM Canada in the aggregate amount of $131. The loan is denominated in Canadian

dollars and is considered a long-term investment with any unrealized gains or losses reported within Accumulated other comprehensive (loss) income. During the six months ended June 30, 2020 and 2019, Sirius XM Canada repaid $3 and less than $1 of the principal amount of the loan, respectively.

Sirius XM has a Services Agreement and an Advisory Services Agreement with Sirius XM Canada. Each agreement has a thirty-year term. Pursuant to the Services Agreement, Sirius XM Canada currently pays Sirius XM 25% of its gross revenues on a monthly basis, and pursuant to the Advisory Services Agreement, Sirius XM Canada pays Sirius XM 5% of its gross revenues on a monthly basis.

Sirius XM Canada is accounted for as an equity method investment, and its results are not consolidated in our unaudited consolidated financial statements. Sirius XM Canada does not meet the requirements for consolidation as we do not have the ability to direct the most significant activities that impact Sirius XM Canada's economic performance.

Our related party long-term assets as of June 30, 2020 and December 31, 2019 included the carrying value of our investment balance in Sirius XM Canada of $314 and $321, respectively, and, as of June 30, 2020 and December 31, 2019, also included $122 and $131, respectively, for the long-term value of the outstanding loan to Sirius XM Canada.

Sirius XM Canada paid gross dividends to us of less than $1 during both the three months ended June 30, 2020 and 2019, and $1 during both the six months ended June 30, 2020 and 2019. Dividends are first recorded as a reduction to our investment balance in Sirius XM Canada to the extent a balance exists and then as Other (expense) income for any remaining portion.

We recorded revenue from Sirius XM Canada as Other revenue in our unaudited consolidated statements of comprehensive income of $23 and $24 for the three months ended June 30, 2020 and 2019, respectively, and $48 for both the six months ended June 30, 2020 and 2019.

SoundCloud

In February 2020, Sirius XM completed a $75 investment in SoundCloud's Series G Membership Units ("Series G Units"). The Series G Units are convertible at the option of the holders at any time into shares of ordinary membership units of SoundCloud at a ratio of one ordinary membership unit for each Series G Unit. The investment in SoundCloud is accounted for as an equity method investment which is recorded in Related party long-term assets in our unaudited consolidated balance sheet. Sirius XM has appointed two individuals to serve on SoundCloud's nine-member board of managers. For both the three and six months ended June 30, 2020, we recorded $1 representing our share of SoundCloud's net loss in Other income (expense) in our unaudited consolidated statement of comprehensive income.

In addition to our investment in SoundCloud, Pandora has an agreement with SoundCloud to be its exclusive US ad sales representative. Through this arrangement Pandora offers advertisers the ability to execute campaigns in the US across the Pandora and SoundCloud listening platforms. We recorded revenue share expense of $10 and $9 related to this agreement during the three months ended June 30, 2020 and 2019, respectively, and $22 and $12 for the six months ended June 30, 2020 and 2019, respectively. We also had related party liabilities of $14 as of June 30, 2020 related to this agreement.

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(13) Debt

Our debt as of June 30, 2020 and December 31, 2019 consisted of the following:

Issuer / Borrower	Issued	Debt	Maturity Date	Interest Payable	Principal Amount at June 30, 2020	Carrying value[a] at June 30, 2020	Carrying value[a] at December 31, 2019
Pandora (b) (c)	December 2015	1.75% Convertible Senior Notes	December 1, 2020	semi-annually on June 1 and December 1	$ 1	$ 1	$ 1
Sirius XM (d)	July 2017	3.875% Senior Notes	August 1, 2022	semi-annually on February 1 and August 1	1,000	996	995
Sirius XM (d) (h)	May 2013	4.625% Senior Notes	May 15, 2023	semi-annually on May 15 and November 15	500	498	498
Pandora (b) (e)	June 2018	1.75% Convertible Senior Notes	December 1, 2023	semi-annually on June 1 and December 1	193	166	163
Sirius XM (d)	July 2019	4.625% Senior Notes	July 15, 2024	semi-annually on January 15 and July 15	1,500	1,486	1,485
Sirius XM (d) (h)	March 2015	5.375% Senior Notes	April 15, 2025	semi-annually on April 15 and October 15	1,000	994	993
Sirius XM (d)	May 2016	5.375% Senior Notes	July 15, 2026	semi-annually on January 15 and July 15	1,000	993	992
Sirius XM (d)	July 2017	5.00% Senior Notes	August 1, 2027	semi-annually on February 1 and August 1	1,500	1,489	1,488
Sirius XM (d)	June 2019	5.500% Senior Notes	July 1, 2029	semi-annually on January 1 and July 1	1,250	1,237	1,236
Sirius XM (d) (g)	June 2020	4.125% Senior Notes	July 1, 2030	semi-annually on January 1 and July 1	1,500	1,483	—
Sirius XM (f)	December 2012	Senior Secured Revolving Credit Facility (the "Credit Facility")	June 29, 2023	variable fee paid quarterly	—	—	—
Sirius XM	Various	Finance leases	Various	n/a	n/a	1	2
Total Debt						9,344	7,853
Less: total current maturities						1,492	2
Less: total deferred financing costs						11	9
Total long-term debt						$ 7,841	$ 7,842

(a) The carrying value of the obligations is net of any remaining unamortized original issue discount.
(b) Holdings has unconditionally guaranteed all of the payment obligations of Pandora under these notes.
(c) We acquired $152 in principal amount of the 1.75% Convertible Senior Notes due 2020 as part of the Pandora Acquisition. On February 14, 2019, Pandora announced a tender offer to repurchase for cash any and all of its outstanding 1.75% Convertible Senior Notes due 2020 at a price equal to 100% of the aggregate principal amount thereof plus accrued and unpaid interest thereon to, but not including, the repurchase date. On March 18, 2019, we purchased $151 in aggregate principal amount of the 1.75% Convertible Senior Notes due 2020 that had been validly tendered and not validly withdrawn in the repurchase offer. We recorded a $1 Loss on extinguishment of debt in connection with this transaction. In addition, we unwound a capped call security acquired as part of the Pandora Acquisition in March 2019 for $3.
(d) All material domestic subsidiaries, including Pandora and its subsidiaries, that guarantee the Credit Facility have guaranteed these notes.
(e) We acquired $193 in principal amount of the 1.75% Convertible Senior Notes due 2023 as part of the Pandora Acquisition. We allocate the principal amount of the 1.75% Convertible Senior Notes due 2023 between the liability and equity components. The value assigned to the debt components of the 1.75% Convertible Senior Notes due 2023 is the estimated fair value as of the issuance date of similar debt without the conversion feature. The difference between the fair value of the debt and this estimated fair value represents the value which has been assigned to the equity component. The equity component is recorded to additional paid-in capital and is not remeasured as long as it continues to meet the conditions for equity classification. The excess of the principal amount of the Notes

over the carrying amount of the liability component is recorded as a debt discount and is being amortized to interest expense using the effective interest method through the December 1, 2023 maturity date. The 1.75% Convertible Senior Notes due 2023 were not convertible into common stock and not redeemable as of June 30, 2020. As a result, we have classified the debt as Long-term within our unaudited consolidated balance sheets.

(f) The $1,750 Credit Facility expires in June 2023. Sirius XM's obligations under the Credit Facility are guaranteed by certain of its material domestic subsidiaries, including Pandora and its subsidiaries, and are secured by a lien on substantially all of Sirius XM's assets and the assets of its material domestic subsidiaries. Interest on borrowings is payable on a monthly basis and accrues at a rate based on LIBOR plus an applicable rate. Sirius XM is also required to pay a variable fee on the average daily unused portion of the Credit Facility which is payable on a quarterly basis. The variable rate for the unused portion of the Credit Facility was 0.25% per annum as of June 30, 2020. All of Sirius XM's outstanding borrowings under the Credit Facility are classified as Long-term debt within our unaudited consolidated balance sheets due to the long-term maturity of this debt. Additionally, the amount available for future borrowing under the Credit Facility is reduced by letters of credit issued for the benefit of Pandora, which were $1 as of June 30, 2020.

(g) On June 11, 2020, Sirius XM issued $1,500 aggregate principal amount of the 4.125% Senior Notes due 2030 with a net original issuance discount and deferred financing costs in the aggregate of $19.

(h) On June 8, 2020, Sirius XM issued a redemption notice pursuant to the indentures governing its 4.625% Senior Notes due 2023 (the "4.625% Notes") and 5.375% Senior Notes due 2025 (the "5.375% Notes") to redeem all of the $500 aggregate principal amount of outstanding 4.625% Notes and all of the $1,000 aggregate principal amount of outstanding 5.375% Notes using the proceeds from the 4.125% Senior Notes due 2030. This redemption will result in a Loss on extinguishment of debt, net, of approximately $40 in the third quarter of 2020. These Notes have been presented in Current maturities of debt in our June 30, 2020 unaudited consolidated balance sheet. For a discussion of subsequent events related to this debt refer to Note 19.

Covenants and Restrictions

Under the Credit Facility, Sirius XM, our wholly owned subsidiary, must comply with a debt maintenance covenant that it cannot exceed a total leverage ratio, calculated as consolidated total debt to consolidated operating cash flow, of 5.0 to 1.0. The Credit Facility generally requires compliance with certain covenants that restrict Sirius XM's ability to, among other things, (i) incur additional indebtedness, (ii) incur liens, (iii) pay dividends or make certain other restricted payments, investments or acquisitions, (iv) enter into certain transactions with affiliates, (v) merge or consolidate with another person, (vi) sell, assign, lease or otherwise dispose of all or substantially all of Sirius XM's assets, and (vii) make voluntary prepayments of certain debt, in each case subject to exceptions.

The indentures governing Sirius XM's notes restrict Sirius XM's non-guarantor subsidiaries' ability to create, assume, incur or guarantee additional indebtedness without such non-guarantor subsidiary guaranteeing each such series of notes on a pari passu basis. The indentures governing the notes also contain covenants that, among other things, limit Sirius XM's ability and the ability of its subsidiaries to create certain liens; enter into sale/leaseback transactions; and merge or consolidate.

Under Sirius XM's debt agreements, the following generally constitute an event of default: (i) a default in the payment of interest; (ii) a default in the payment of principal; (iii) failure to comply with covenants; (iv) failure to pay other indebtedness after final maturity or acceleration of other indebtedness exceeding a specified amount; (v) certain events of bankruptcy; (vi) a judgment for payment of money exceeding a specified aggregate amount; and (vii) voidance of subsidiary guarantees, subject to grace periods where applicable. If an event of default occurs and is continuing, our debt could become immediately due and payable.

The indentures governing the Pandora Convertible Notes contain covenants that limit Pandora’s ability to merge or consolidate and provide for customary events of default, which include nonpayment of principal or interest, breach of covenants, payment defaults or acceleration of other indebtedness and certain events of bankruptcy.

At June 30, 2020 and December 31, 2019, we were in compliance with our debt covenants.

Pandora Convertible Notes

Pandora's 1.75% Convertible Senior Notes due 2020 (the “Pandora 2020 Notes”) and Pandora's 1.75% Convertible Senior Notes due 2023 (the “Pandora 2023 Notes” and, together with the Pandora 2020 Notes, the “Pandora Convertible Notes”) are unsecured, senior obligations of Pandora. Holdings has guaranteed the payment and performance obligations of Pandora under the Pandora Convertible Notes and the indentures governing the Pandora Convertible Notes.

The Pandora 2020 Notes will mature on December 1, 2020, unless earlier repurchased or redeemed by Pandora or converted in accordance with their terms. As of June 30, 2020, the conversion rate applicable to the Pandora 2020 Notes was 88.5816 shares of Holdings' common stock per one thousand principal amount of the Pandora 2020 Notes plus carryforward adjustments not yet effected pursuant to the terms of the indenture governing the Pandora 2020 Notes. Pandora has irrevocably elected and determined to settle all conversion obligations from and after February 1, 2019 with respect to the Pandora 2020 Notes solely in cash. During the six months ended June 30, 2019, we purchased $151 in aggregate principal amount of the Pandora 2020 Notes. See footnote (c) to the table above.

The Pandora 2023 Notes will mature on December 1, 2023, unless earlier repurchased or redeemed by Pandora or converted in accordance with their terms. As of June 30, 2020, the conversion rate applicable to the Pandora 2023 Notes was 151.9533 shares of Holdings' common stock per one thousand principal amount of the Pandora 2023 Notes plus carryforward adjustments not yet effected pursuant to the terms of the indenture governing the Pandora 2023 Notes.

(14) Stockholders' Equity

Common Stock, par value $0.001 per share

We are authorized to issue up to 9,000 shares of common stock. There were 4,355 and 4,412 shares of common stock issued and 4,353 and 4,412 shares of common stock outstanding on June 30, 2020 and December 31, 2019, respectively.

As of June 30, 2020, there were 268 shares of common stock reserved for issuance in connection with outstanding stock-based awards to members of our board of directors, employees and third parties.

Quarterly Dividends

During the six months ended June 30, 2020, we declared and paid the following dividends:

Declaration Date	Dividend Per Share	Record Date	Total Amount	Payment Date
January 30, 2020	$ 0.01331	February 12, 2020	$ 59	February 28, 2020
April 21, 2020	$ 0.01331	May 8, 2020	$ 58	May 29, 2020

Stock Repurchase Program

As of June 30, 2020, our board of directors had approved for repurchase an aggregate of $14,000 of our common stock. Our board of directors did not establish an end date for this stock repurchase program. Shares of common stock may be purchased from time to time on the open market, pursuant to pre-set trading plans meeting the requirements of Rule 10b5-1 under the Exchange Act, in privately negotiated transactions, including transactions with Liberty Media and its affiliates, or otherwise. As of June 30, 2020, our cumulative repurchases since December 2012 under our stock repurchase program totaled 3,117 shares for $13,241, and $759 remained available for future share repurchases under our stock repurchase program.

The following table summarizes our total share repurchase activity for the six months ended:

	June 30, 2020		June 30, 2019	
Share Repurchase Type	Shares	Amount	Shares	Amount
Open Market Repurchases	70	$ 408	259	$ 1,502

Preferred Stock, par value $0.001 per share

We are authorized to issue up to 50 shares of undesignated preferred stock with a liquidation preference of $0.001 per share. There were no shares of preferred stock issued or outstanding as of June 30, 2020 and December 31, 2019.

(15) Benefit Plans

We recognized share-based payment expense of $52 and $57 for the three months ended June 30, 2020 and 2019, respectively, and $107 and $127 for the six months ended June 30, 2020 and 2019, respectively. This amount includes $21 of

share-based compensation expense recorded in Acquisition and restructuring costs in our unaudited consolidated statements of comprehensive income during the six months ended June 30, 2019.

2015 Long-Term Stock Incentive Plan

In May 2015, our stockholders approved the Sirius XM Holdings Inc. 2015 Long-Term Stock Incentive Plan (the "2015 Plan"). Employees, consultants and members of our board of directors are eligible to receive awards under the 2015 Plan. The 2015 Plan provides for the grant of stock options, restricted stock awards, restricted stock units and other stock-based awards that the compensation committee of our board of directors deems appropriate. Stock-based awards granted under the 2015 Plan are generally subject to a graded vesting requirement, which is generally three to four years from the grant date. Stock options generally expire ten years from the date of grant. Restricted stock units include performance-based restricted stock units ("PRSUs"), the vesting of which are subject to the achievement of performance goals and the employee's continued employment and generally cliff vest on the third anniversary of the grant date. Each restricted stock unit entitles the holder to receive one share of common stock upon vesting. As of June 30, 2020, 159 shares of common stock were available for future grants under the 2015 Plan.

In connection with the Pandora Acquisition, we assumed all shares available for issuance (including any shares that later become available for issuance in accordance with the terms of the applicable plans) under each of the 2014 Stock Incentive Plan of AdsWizz Inc., the Pandora Media, Inc. 2011 Equity Incentive Plan, the Pandora Media, Inc. 2004 Stock Plan and the TheSavageBeast.com, Inc. 2000 Stock Incentive Plan, which were previously approved by stockholders of Pandora or the applicable adopting entity. All shares available under these stock plans became additional shares available for grant pursuant to the terms of the 2015 Plan (as adjusted, to the extent appropriate, to reflect the application of the exchange ratio). Subject to certain limitations set forth in the 2015 Plan, such shares may be used for awards under the 2015 Plan.

Other Plans

We maintain six share-based benefit plans in addition to the 2015 Plan — the Sirius XM Radio Inc. 2009 Long-Term Stock Incentive Plan, the Amended and Restated Sirius Satellite Radio 2003 Long-Term Stock Incentive Plan, the 2014 Stock Incentive Plan of AdsWizz Inc., the Pandora Media, Inc. 2011 Equity Incentive Plan, the Pandora Media, Inc. 2004 Stock Plan and the TheSavageBeast.com, Inc. 2000 Stock Incentive Plan. Excluding dividend equivalent units granted as a result of a declared dividend, no further awards may be made under these plans.

The following table summarizes the weighted-average assumptions used to compute the fair value of options granted to employees:

	For the Three Months Ended June 30,		For the Six Months Ended June 30,	
	2020	2019	2020	2019
Risk-free interest rate	0.3%	2.1%	1.3%	2.5%
Expected life of options — years	3.80	3.99	3.82	3.36
Expected stock price volatility	36%	34%	25%	26%
Expected dividend yield	0.9%	0.9%	0.7%	0.8%

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The following table summarizes stock option activity under our share-based plans for the six months ended June 30, 2020:

	Options	Weighted-Average Exercise Price Per Share	Weighted-Average Remaining Contractual Term (Years)	Aggregate Intrinsic Value
Outstanding as of December 31, 2019	208	$ 4.46		
Granted	7	$ 7.17		
Exercised	(13)	$ 3.97		
Forfeited, cancelled or expired	(1)	$ 6.10		
Outstanding as of June 30, 2020	201	$ 4.58	5.28	$ 294
Exercisable as of June 30, 2020	143	$ 4.07	4.47	$ 265

The weighted average grant date fair value per stock option granted during the six months ended June 30, 2020 was $1.42. The total intrinsic value of stock options exercised during the six months ended June 30, 2020 and 2019 was $39 and $22, respectively. During the six months ended June 30, 2020, the number of net settled shares which were issued as a result of stock option exercises was 4.

We recognized share-based payment expense associated with stock options of $12 and $15 for the three months ended June 30, 2020 and 2019, respectively, and $23 and $35 for the six months ended June 30, 2020 and 2019, respectively.

The following table summarizes the restricted stock unit, including PRSU, activity under our share-based plans for the six months ended June 30, 2020:

	Shares	Grant Date Fair Value Per Share
Nonvested as of December 31, 2019	75	$ 5.95
Granted	7	$ 7.01
Vested	(12)	$ 5.81
Forfeited	(3)	$ 5.98
Nonvested as of June 30, 2020	67	$ 6.08

The total intrinsic value of restricted stock units, including PRSUs, vesting during the six months ended June 30, 2020 and 2019 was $77 and $102, respectively. During the six months ended June 30, 2020, the number of net settled shares which were issued as a result of restricted stock units vesting totaled 7. During the six months ended June 30, 2020, we granted 3 PRSUs to certain employees. We believe it is probable that the performance target applicable to these PRSUs will be achieved.

In connection with the cash dividends paid during the six months ended June 30, 2020, we granted less than 1 restricted stock units, including PRSUs, in accordance with the terms of existing award agreements. These grants did not result in any additional incremental share-based payment expense being recognized during the six months ended June 30, 2020.

We recognized share-based payment expense associated with restricted stock units, including PRSUs, of $40 and $42 for the three months ended June 30, 2020 and 2019, respectively, and $84 and $92 for the six months ended June 30, 2020 and 2019, respectively.

Total unrecognized compensation costs related to unvested share-based payment awards for stock options and restricted stock units, including PRSUs, granted to employees, members of our board of directors and third parties at June 30, 2020 and December 31, 2019 was $342 and $415, respectively. The total unrecognized compensation costs at June 30, 2020 are expected to be recognized over a weighted-average period of 2.2 years.

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401(k) Savings Plans

Sirius XM Radio Inc. 401(k) Savings Plan

Sirius XM sponsors the Sirius XM Radio Inc. 401(k) Savings Plan (the "Sirius XM Plan") for eligible employees. The Sirius XM Plan allows eligible employees to voluntarily contribute from 1% to 50% of their pre-tax eligible earnings, subject to certain defined limits. We match 50% of an employee's voluntary contributions per pay period on the first 6% of an employee's pre-tax salary up to a maximum of 3% of eligible compensation. We may also make additional discretionary matching, true-up matching and non-elective contributions to the Sirius XM Plan. Employer matching contributions under the Sirius XM Plan vest at a rate of 33.33% for each year of employment and are fully vested after three years of employment for all current and future contributions. Our cash employer matching contributions are not used to purchase shares of our common stock on the open market, unless the employee elects our common stock as their investment option for this contribution.

Pandora Media, LLC 401(k) Profit Sharing Plan and Trust

Pandora sponsors the Pandora Media, LLC 401(k) Profit Sharing Plan and Trust (the "Pandora Plan") for eligible employees. The Pandora Plan allows eligible employees to voluntarily contribute from 1% to 75% of their pre-tax eligible earnings, subject to certain defined limits. Effective January 1, 2020, we began matching 50% of an employee's voluntary contributions per pay period on the first 6% of an employee's pre-tax salary up to a maximum of 3% of eligible compensation.

We recognized expenses of $3 and $2 for the three months ended June 30, 2020 and 2019, respectively, and $8 and $4 for the six months ended June 30, 2020 and 2019, respectively, in connection with the Sirius XM and Pandora Plans.

Sirius XM Holdings Inc. Deferred Compensation Plan

The Sirius XM Holdings Inc. Deferred Compensation Plan (the "DCP") allows members of our board of directors and certain eligible employees to defer all or a portion of their base salary, cash incentive compensation and/or board of directors' cash compensation, as applicable. Pursuant to the terms of the DCP, we may elect to make additional contributions beyond amounts deferred by participants, but we are under no obligation to do so. We have established a grantor (or "rabbi") trust to facilitate the payment of our obligations under the DCP.

Contributions to the DCP, net of withdrawals, for the three months ended June 30, 2020 and 2019 were $1 and less than $1, respectively, and were $7 for both six months ended June 30, 2020 and 2019. As of June 30, 2020 and December 31, 2019, the fair value of the investments held in the trust were $41 and $34, respectively, which is included in Other long-term assets in our unaudited consolidated balance sheets and classified as trading securities. Trading gains and losses associated with these investments are recorded in Other (expense) income within our unaudited consolidated statements of comprehensive income. The associated liability is recorded within Other long-term liabilities in our unaudited consolidated balance sheets, and any increase or decrease in the liability is recorded in General and administrative expense within our unaudited consolidated statements of comprehensive income. We recorded unrealized gains (losses) on investments held in the trust of $4 and $1 for the three months ended June 30, 2020 and 2019, respectively, and $(1) and $3 for the six months ended June 30, 2020 and 2019, respectively.

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(16) Commitments and Contingencies

The following table summarizes our expected contractual cash commitments as of June 30, 2020:

	2020	2021	2022	2023	2024	Thereafter	Total
Debt obligations	$ 1,501	$ 1	$ 1,000	$ 193	$ 1,500	$ 5,250	$ 9,445
Cash interest payments	172	379	375	335	329	1,048	2,638
Satellite and transmission	30	48	2	1	1	1	83
Programming and content	157	235	151	87	43	97	770
Sales and marketing	47	35	25	9	3	8	127
Satellite incentive payments	3	8	9	9	9	47	85
Operating lease obligations	35	74	67	59	46	180	461
Advertising sales commitments	—	6	—	—	—	—	6
Royalties, minimum guarantees and other [1]	277	265	190	21	7	—	760
Total [2]	$ 2,222	$ 1,051	$ 1,819	$ 714	$ 1,938	$ 6,631	$ 14,375

(1) Includes $31 related to the debt premium paid in connection with the redemption of the 4.625% Notes and 5.375% Notes on July 9, 2020.
(2) The table does not include our reserve for uncertain tax positions, which at June 30, 2020 totaled $24.

Debt obligations. Debt obligations include principal payments on outstanding debt and finance lease obligations.

Cash interest payments. Cash interest payments include interest due on outstanding debt and capital lease payments through maturity.

Satellite and transmission. We have entered into agreements with several third parties to design, build, launch and insure two satellites, SXM-7 and SXM-8. We also have entered into agreements with third parties to operate and maintain satellite telemetry, tracking and control facilities and certain components of our terrestrial repeater networks.

Programming and content. We have entered into various programming and content agreements. Under the terms of these agreements, our obligations include fixed payments, advertising commitments and revenue sharing arrangements. In certain of these agreements, the future revenue sharing costs are dependent upon many factors and are difficult to estimate; therefore, they are not included in our minimum contractual cash commitments.

Sales and marketing. We have entered into various marketing, sponsorship and distribution agreements to promote our brands and are obligated to make payments to sponsors, retailers, automakers, radio manufacturers and other third parties under these agreements. Certain programming and content agreements also require us to purchase advertising on properties owned or controlled by the licensors.

Satellite incentive payments. Boeing Satellite Systems International, Inc., the manufacturer of certain of our in-orbit satellites, may be entitled to future in-orbit performance payments upon XM-3 and XM-4 meeting their fifteen-year design life, which we expect to occur. Boeing may also be entitled to up to $10 of additional incentive payments if our XM-4 satellite continues to operate above baseline specifications during the five years beyond the satellite's fifteen-year design life.

Maxar Technologies (formerly Space Systems/Loral), the manufacturer of certain of our in-orbit satellites, may be entitled to future in-orbit performance payments upon XM-5, SIRIUS FM-5 and SIRIUS FM-6 meeting their fifteen-year design life, which we expect to occur.

Operating lease obligations. We have entered into both cancelable and non-cancelable operating leases for office space, terrestrial repeaters, data centers and equipment. These leases provide for minimum lease payments, additional operating expense charges, leasehold improvements and rent escalations that have initial terms ranging from one to fifteen years, and certain leases have options to renew.

Advertising Sales Commitments. We have entered into agreements with third parties that contain minimum advertising sales guarantees and require that we make guaranteed payments. As of June 30, 2020, we had future minimum guarantee commitments of $6. On a quarterly basis, we record the greater of the cumulative actual expense incurred or the cumulative minimum guarantee based on our forecast for the minimum guarantee period. The minimum guarantee period is the period of time that the minimum guarantee relates to, as specified in the agreement, which may be annual or a longer period.

Royalties, Minimum Guarantees and Other. We have entered into music royalty arrangements that include fixed payments. Certain of our content agreements also contain minimum guarantees and require that we make upfront minimum guaranteed payments. During the six months ended June 30, 2020, we prepaid $5 in content costs related to minimum guarantees. As of June 30, 2020, we had future fixed minimum guarantee commitments of $108, of which $96 will be paid in 2020 and the remainder will be paid thereafter. On a quarterly basis, we record the greater of the cumulative actual content costs incurred or the cumulative minimum guarantee based on forecasted usage for the minimum guarantee period. The minimum guarantee period is the period of time that the minimum guarantee relates to, as specified in each agreement, which may be annual or a longer period. The cumulative minimum guarantee, based on forecasted usage, considers factors such as listening hours, revenue, subscribers and other terms of each agreement that impact our expected attainment or recoupment of the minimum guarantees based on the relative attribution method.

Several of our content agreements also include provisions related to the royalty payments and structures of those agreements relative to other content licensing arrangements, which, if triggered, could cause our payments under those agreements to escalate. In addition, record labels, publishers and performing rights organizations ("PROs") with whom we have entered into direct license agreements have the right to audit our content payments, and any such audit could result in disputes over whether we have paid the proper content costs.

We have also entered into various agreements with third parties for general operating purposes.

In addition to the minimum contractual cash commitments described above, we have entered into other variable cost arrangements. These future costs are dependent upon many factors and are difficult to anticipate; however, these costs may be substantial. We may enter into additional programming, distribution, marketing and other agreements that contain similar variable cost provisions. We also have a surety bond of approximately $45 primarily used as security against non-performance in the normal course of business. We do not have any other significant off-balance sheet financing arrangements that are reasonably likely to have a material effect on our financial condition, results of operations, liquidity, capital expenditures or capital resources.

Legal Proceedings

In the ordinary course of business, we are a defendant or party to various claims and lawsuits, including those discussed below.

We record a liability when we believe that it is both probable that a liability will be incurred, and the amount of loss can be reasonably estimated. We evaluate developments in legal matters that could affect the amount of liability that has been previously accrued and make adjustments as appropriate. Significant judgment is required to determine both probability and the estimated amount of a loss or potential loss. We may be unable to reasonably estimate the reasonably possible loss or range of loss for a particular legal contingency for various reasons, including, among others, because: (i) the damages sought are indeterminate; (ii) the proceedings are in the relative early stages; (iii) there is uncertainty as to the outcome of pending proceedings (including motions and appeals); (iv) there is uncertainty as to the likelihood of settlement and the outcome of any negotiations with respect thereto; (v) there remain significant factual issues to be determined or resolved; (vi) the relevant law is unsettled; or (vii) the proceedings involve novel or untested legal theories. In such instances, there may be considerable uncertainty regarding the ultimate resolution of such matters, including the likelihood or magnitude of a possible eventual loss, if any.

Pre-1972 Sound Recording Litigation. On October 2, 2014, Flo & Eddie Inc. filed a class action suit against Pandora in the federal district court for the Central District of California. The complaint alleges a violation of California Civil Code Section 980, unfair competition, misappropriation and conversion in connection with the public performance of sound recordings recorded prior to February 15, 1972 (which we refer to as, "pre-1972 recordings"). On December 19, 2014, Pandora filed a motion to strike the complaint pursuant to California's Anti-Strategic Lawsuit Against Public Participation ("Anti-

SLAPP") statute, which following denial of Pandora's motion was appealed to the Ninth Circuit Court of Appeals. In March 2017, the Ninth Circuit requested certification to the California Supreme Court on the substantive legal questions. The California Supreme Court accepted certification. In May 2019, the California Supreme Court issued an order dismissing consideration of the certified questions on the basis that, following the enactment of the Orrin G. Hatch-Bob Goodlatte Music Modernization Act, Pub. L. No. 115-264, 132 Stat. 3676 (2018) (the "MMA"), resolution of the questions posed by the Ninth Circuit Court of Appeals was no longer "necessary to . . . settle an important question of law."

The MMA grants a potential federal preemption defense to the claims asserted in the aforementioned lawsuits. In July 2019, Pandora took steps to avail itself of this preemption defense, including making the required payments under the MMA for certain of its uses of pre-1972 recordings. Based on the federal preemption contained in the MMA (along with other considerations), Pandora asked the Ninth Circuit to order the dismissal of the *Flo & Eddie, Inc. v. Pandora Media, Inc.* case. On October 17, 2019, the Ninth Circuit Court of Appeals issued a memorandum disposition concluding that the question of whether the MMA preempts Flo and Eddie's claims challenging Pandora's performance of pre-1972 recordings "depends on various unanswered factual questions" and remanded the case to the District Court for further proceedings.

After Flo & Eddie filed its action in 2014 against Pandora, several other plaintiffs commenced separate actions, both on an individual and class action basis, alleging a variety of violations of common law and state copyright and other statutes arising from allegations that Pandora owed royalties for the public performance of pre-1972 recordings. Many of these separate actions have been dismissed or are in the process of being dismissed. None of the remaining pending actions is likely to have a material adverse effect on our business, financial condition or results of operations.

We believe we have substantial defenses to the claims asserted in these actions, and we intend to defend these actions vigorously.

Copyright Royalty Board Proceeding to Determine the Rate for Statutory Webcasting. Pursuant to Sections 112 and 114 of the Copyright Act, the Copyright Royalties Board (the "CRB") initiated a proceeding in January 2019 to set the rates and terms by which webcasters may perform sound recordings via digital transmission over the internet and make ephemeral reproductions of those recordings during the 2021-2025 rate period under the authority of statutory licenses provided under Sections 112 and 114 of the Copyright Act. We filed a petition to participate in the proceeding on behalf of our Sirius XM and Pandora businesses, as did other webcasters including Google Inc. and the National Association of Broadcasters. SoundExchange, a collective organization that collects and distributes digital performance royalties to artists and copyright holders, represents the various copyright owner participants in the proceeding, including Sony Music Entertainment, Universal Music Group and Warner Music Group. Because the proceeding focuses on setting statutory rates for non-interactive online music streaming (commonly identified as "webcasting"), the proceeding will set the rates that our Pandora business pays for music streaming on its free, ad-supported tier and that our Sirius XM business pays for streaming on its subscription internet radio service. This proceeding will not set the rates that we pay for our other music offerings (satellite radio, business establishment services) or that we pay for interactive streaming on our Pandora Plus and Pandora Premium services.

In September 2019, the participants filed written direct statements, including proposed rates and terms for the 2021-2025 period. We and other webcaster participants proposed rates below the existing statutory rates, which for commercial webcasters are currently set at $0.0018 per performance for non-subscription transmissions (such as offered by our Pandora ad-supported business) and $0.0024 per performance for subscription transmissions (such as offered by our Sirius XM internet radio service). SoundExchange has proposed increasing the commercial webcasting rates to $0.0028 per performance for non-subscription transmissions and $0.0031 per performance for subscription transmissions.

In January 2020, the participants filed written rebuttal statements, responding to each other's proposals. A multi-week hearing was scheduled to begin before the CRB in March 2020, but has been delayed as a result of the COVID-19 pandemic. We expect the hearing to begin before the CRB this summer.

Other Matters. In the ordinary course of business, we are a defendant in various other lawsuits and arbitration proceedings, including derivative actions; actions filed by subscribers, both on behalf of themselves and on a class action basis; former employees; parties to contracts or leases; and owners of patents, trademarks, copyrights or other intellectual property. None of these other matters, in our opinion, is likely to have a material adverse effect on our business, financial condition or results of operations.

SIRIUS XM HOLDINGS INC. AND SUBSIDIARIES
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS - Continued
(UNAUDITED)
(Dollars and shares in millions, except per share amounts)

(17) Income Taxes

We file a consolidated federal income tax return for all of our wholly owned subsidiaries. For the three months ended June 30, 2020 and 2019, income tax expense was $74 and $76, respectively, and $154 and $157 for the six months ended June 30, 2020 and 2019, respectively.

Our effective tax rate for the three months ended June 30, 2020 and 2019 was 23.3% and 22.4%, respectively. Our effective tax rate for the six months ended June 30, 2020 and 2019 was 22.3% and 27.0%, respectively. The effective tax rates for the three and six months ended June 30, 2020 were primarily impacted by federal and state tax credits and the recognition of excess tax benefits related to share-based compensation. The effective tax rate for the three months ended June 30, 2019 was primarily impacted by the recognition of excess tax benefits related to share-based compensation. The effective tax rate for the six months ended June 30, 2019 was primarily impacted by the increase to the valuation allowance related to certain federal research and development credits that are no longer expected to be realizable. We estimate our effective tax rate for the year ending December 31, 2020 will be approximately 23%.

As of June 30, 2020 and December 31, 2019, we had a valuation allowance related to deferred tax assets of $69 and $70, respectively, that was not likely to be realized due to certain net operating loss limitations, including tax credits, and acquired net operating losses that were not more likely than not going to be utilized.

(18) Segments and Geographic Information

In accordance with FASB ASC Topic 280, *Segment Reporting*, we disaggregate our operations into two reportable segments: Sirius XM and Pandora. The financial results of these segments are utilized by the chief operating decision maker, who is our Chief Executive Officer, for evaluating segment performance and allocating resources. We report our segment information based on the "management" approach. The management approach designates the internal reporting used by management for making decisions and assessing performance as the source of our reportable segments. For additional information on our segments refer to Note 1.

Segment results include the revenues and cost of services which are directly attributable to each segment. There are no indirect revenues or costs incurred that are allocated to the segments. There are planned intersegment advertising campaigns which will be eliminated. We had less than $1 of intersegment advertising revenue during both the three and six months ended June 30, 2020 and 2019.

Segment revenue and gross profit were as follows during the periods presented:

	For the Three Months Ended June 30, 2020		
	Sirius XM	Pandora	Total
Revenue			
Subscriber revenue	$ 1,453	$ 125	$ 1,578
Advertising revenue	25	211	236
Equipment revenue	25	—	25
Other revenue	35	—	35
Total revenue	1,538	336	1,874
Cost of services [a]	(593)	(263)	(856)
Segment gross profit	$ 945	$ 73	$ 1,018

SIRIUS XM HOLDINGS INC. AND SUBSIDIARIES
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS - Continued
(UNAUDITED)
(Dollars and shares in millions, except per share amounts)

The reconciliation between reportable segment gross profit to consolidated income before income tax is as follows:

	For the Three Months Ended June 30, 2020
Segment Gross Profit	$ 1,018
Subscriber acquisition costs	(48)
Sales and marketing [(a)]	(201)
Engineering, design and development [(a)]	(52)
General and administrative [(a)]	(102)
Depreciation and amortization	(124)
Share-based payment expense	(52)
Acquisition and restructuring costs	(24)
Total other (expense) income	(98)
Consolidated income before income taxes	$ 317

(a) Share-based payment expense of $10 related to cost of services, $16 related to sales and marketing, $9 related to engineering, design and development and $17 related to general and administrative has been excluded.

	For the Three Months Ended June 30, 2019		
	Sirius XM	Pandora	Total
Revenue			
Subscriber revenue	$ 1,402	$ 135	$ 1,537
Advertising revenue	52	306	358
Equipment revenue	41	—	41
Other revenue	41	—	41
Total revenue	1,536	441	1,977
Cost of services [(b)]	(594)	(278)	(872)
Segment gross profit	$ 942	$ 163	$ 1,105

The reconciliation between reportable segment gross profit to consolidated income before income tax is as follows:

	For the Three Months Ended June 30, 2019
Segment Gross Profit	$ 1,105
Subscriber acquisition costs	(104)
Sales and marketing [(b)]	(213)
Engineering, design and development [(b)]	(61)
General and administrative [(b)]	(105)
Depreciation and amortization	(119)
Share-based payment expense	(57)
Acquisition and restructuring costs	(7)
Total other (expense) income	(100)
Consolidated income before income taxes	$ 339

(b) Share-based payment expense of $10 related to cost of services, $19 related to sales and marketing, $13 related to engineering, design and development and $15 related to general and administrative has been excluded.

SIRIUS XM HOLDINGS INC. AND SUBSIDIARIES
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS - Continued
(UNAUDITED)
(Dollars and shares in millions, except per share amounts)

	For the Six Months Ended June 30, 2020		
	Sirius XM	Pandora	Total
Revenue			
Subscriber revenue	$ 2,910	$ 253	$ 3,163
Advertising revenue	69	452	521
Equipment revenue	66	—	66
Other revenue	76	—	76
Total revenue	3,121	705	3,826
Cost of services [c]	(1,186)	(509)	(1,695)
Segment gross profit	$ 1,935	$ 196	$ 2,131

The reconciliation between reportable segment gross profit to consolidated income before income tax is as follows:

	For the Six Months Ended June 30, 2020
Segment Gross Profit	$ 2,131
Subscriber acquisition costs	(147)
Sales and marketing [c]	(409)
Engineering, design and development [c]	(112)
General and administrative [c]	(193)
Depreciation and amortization	(256)
Share-based payment expense	(107)
Acquisition and restructuring costs	(24)
Total other (expense) income	(193)
Consolidated income before income taxes	$ 690

(c) Share-based payment expense of $21 related to cost of services, $33 related to sales and marketing, $20 related to engineering, design and development and $33 related to general and administrative has been excluded.

	For the Six Months Ended June 30, 2019		
	Sirius XM	Pandora	Total
Revenue			
Subscriber revenue	$ 2,772	$ 223	$ 2,995
Advertising revenue	98	469	567
Equipment revenue	82	—	82
Other revenue	77	—	77
Total revenue	3,029	692	3,721
Cost of services [d]	(1,163)	(448)	(1,611)
Segment gross profit	$ 1,866	$ 244	$ 2,110

The reconciliation between reportable segment gross profit to consolidated income before income tax is as follows:

SIRIUS XM HOLDINGS INC. AND SUBSIDIARIES
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS - Continued
(UNAUDITED)
(Dollars and shares in millions, except per share amounts)

	For the Six Months Ended June 30, 2019
Segment Gross Profit	$ 2,110
Subscriber acquisition costs	(212)
Sales and marketing [(d)]	(381)
Engineering, design and development [(d)]	(106)
General and administrative [(d)]	(224)
Depreciation and amortization	(226)
Share-based payment expense	(106)
Acquisition and restructuring costs	(83)
Total other (expense) income	(190)
Consolidated income before income taxes	$ 582

(d) Share-based payment expense of $19 related to cost of services, $34 related to sales and marketing, $22 related to engineering, design and development and $31 related to general and administrative has been excluded.

A measure of segment assets is not currently provided to the Chief Executive Officer and has therefore not been provided.

As of June 30, 2020, long-lived assets were predominantly located in the United States. No individual foreign country represented a material portion of our consolidated revenue during the three and six months ended June 30, 2020 and 2019.

(19) Subsequent Events

Debt Transactions

On June 8, 2020, Sirius XM issued a redemption notice pursuant to the indentures governing its 4.625% Senior Notes due 2023 (the "4.625% Notes") and 5.375% Senior Notes due 2025 (the "5.375% Notes") to redeem all of the $500 aggregate principal amount of outstanding 4.625% Notes and all of the $1,000 aggregate principal amount of outstanding 5.375% Notes. The 4.625% Notes and 5.375% Notes were redeemed on July 9, 2020 at a redemption price of 100.8% and 102.7% of the principal amount thereof, respectively, plus accrued and unpaid interest thereon to, but excluding, the date of redemption. This redemption will result in a Loss on extinguishment of debt, net, of approximately $40 in the third quarter of 2020.

Capital Return Program

On July 14, 2020, our board of directors approved an additional $2,000 of common stock repurchases, increasing our total authorization to $16,000 since the inception of the program. For the period from July 1, 2020 to July 28, 2020 we repurchased 13 shares of our common stock on the open market for an aggregate purchase price of $75, including fees and commissions.

On July 14, 2020, our board of directors declared a quarterly dividend on our common stock in the amount of $0.01331 per share of common stock payable on August 31, 2020 to stockholders of record as of the close of business on August 7, 2020.

Stitcher Acquisition

On July 13, 2020, Sirius XM entered into an agreement with The E.W. Scripps Company ("Scripps") and certain of its subsidiaries ("Scripps") to acquire the assets of Stitcher, a pioneer in podcast production, distribution, and ad sales. Under the terms of the asset purchase agreement, at the closing, Sirius XM will make a cash payment of $265 to Scripps. The agreement provides that Sirius XM will potentially make up to $60 in additional contingent payments based on Stitcher achieving certain financial metrics in 2020 and 2021. The transaction is expected to close in the third quarter of 2020, subject to receipt of required regulatory approvals and the satisfaction of other customary closing conditions.

ITEM 2. MANAGEMENT'S DISCUSSION AND ANALYSIS OF FINANCIAL CONDITION AND RESULTS OF OPERATIONS

All amounts referenced in this Item 2 are in millions, except subscriber amounts are in thousands and per subscriber and per installation amounts are in ones, unless otherwise stated.

The following discussion and analysis of our financial condition and results of operations should be read in conjunction with our unaudited consolidated financial statements and related notes included elsewhere in this Quarterly Report on Form 10-Q and with our Annual Report on Form 10-K for the year ended December 31, 2019.

This Quarterly Report on Form 10-Q presents information for Sirius XM Holdings Inc. ("Holdings"). The terms "Holdings," "we," "us," "our," and "our company" as used herein, and unless otherwise stated or indicated by context, refer to Sirius XM Holdings Inc. and its subsidiaries. "Sirius XM" refers to our wholly owned subsidiary Sirius XM Radio Inc. and its subsidiaries. "Pandora" refers to Sirius XM's wholly owned subsidiary Pandora Media, LLC (the successor to Pandora Media, Inc.) and its subsidiaries. Holdings has no operations independent of Sirius XM and Pandora.

Special Note Regarding Forward-Looking Statements

The following cautionary statements identify important factors that could cause our actual results to differ materially from those projected in forward-looking statements made in this Quarterly Report on Form 10-Q and in other reports and documents published by us from time to time. Any statements about our beliefs, plans, objectives, expectations, assumptions, future events or performance are not historical facts and may be forward-looking. These statements are often, but not always, made through the use of words or phrases such as "will likely result," "are expected to," "will continue," "is anticipated," "estimated," "intend," "plan," "projection" and "outlook." Any forward-looking statements are qualified in their entirety by reference to the factors discussed throughout this Quarterly Report on Form 10-Q and in other reports and documents published by us from time to time, including the risk factors described under "Risk Factors" in Part I, Item 1A, of our Annual Report on Form 10-K for the year ended December 31, 2019, the risk factor described under "Risk Factors" in Part II, Item 1A of our Quarterly Report on Form 10-Q for the quarter ended March 31, 2020, and "Management's Discussion and Analysis of Financial Condition and Results of Operations" herein and in Part II, Item 7, of our Annual Report on Form 10-K for the year ended December 31, 2019.

Among the significant factors that could cause our actual results to differ materially from those expressed in the forward-looking statements are:

- The current COVID-19 pandemic has, and may continue to, adversely impact our business
- We face substantial competition and that competition is likely to increase over time
- If our efforts to attract and retain subscribers and listeners, or convert listeners into subscribers, are not successful, our business will be adversely affected
- Our Pandora ad-supported business has suffered a loss of monthly active users, which may adversely affect our Pandora business
- Privacy and data security laws and regulations may hinder our ability to market our services, sell advertising and impose legal liabilities
- We engage in extensive marketing efforts and the continued effectiveness of those efforts are an important part of our business
- Consumer protection laws and our failure to comply with them could damage our business
- A substantial number of our Sirius XM subscribers periodically cancel their subscriptions and we cannot predict how successful we will be at retaining customers
- Our ability to profitably attract and retain subscribers to our Sirius XM service as our marketing efforts reach more price-sensitive consumers is uncertain
- Our failure to convince advertisers of the benefits of our Pandora ad-supported service could harm our business
- If we are unable to maintain revenue growth from our advertising products, particularly in mobile advertising, our results of operations will be adversely affected
- If we fail to accurately predict and play music, comedy or other content that our Pandora listeners enjoy, we may fail to retain existing and attract new listeners
- If we fail to protect the security of personal information about our customers, we could be subject to costly government enforcement actions and private litigation and our reputation could suffer
- Interruption or failure of our information technology and communications systems could impair the delivery of our service and harm our business
- We rely on third parties for the operation of our business, and the failure of third parties to perform could adversely affect our business
- Our business depends in part upon the auto industry
- Our Pandora business depends in part upon consumer electronics manufacturers
- The market for music rights is changing and is subject to significant uncertainties
- Our ability to offer interactive features in our Pandora services depends upon maintaining licenses with copyright owners
- The rates we must pay for "mechanical rights" to use musical works on our Pandora service have increased substantially and these new rates may adversely affect our business
- Failure of our satellites would significantly damage our business
- Our Sirius XM service may experience harmful interference from wireless operations
- Failure to comply with FCC requirements could damage our business
- Economic conditions, including advertising budgets and discretionary spending, may adversely affect our business and operating results
- If we are unable to attract and retain qualified personnel, our business could be harmed
- We may not realize the benefits of acquisitions or other strategic investments and initiatives, including the acquisitions of Pandora and Simplecast
- Our use of pre-1972 sound recordings on our Pandora service could result in additional costs

- We may from time to time modify our business plan, and these changes could adversely affect us and our financial condition
- We have a significant amount of indebtedness, and our debt contains certain covenants that restrict our operations
- Our facilities could be damaged by natural catastrophes or terrorist activities
- The unfavorable outcome of pending or future litigation could have an adverse impact on our operations and financial condition
- Failure to protect our intellectual property or actions by third parties to enforce their intellectual property rights could substantially harm our business and operating results
- Some of our services and technologies may use “open source” software, which may restrict how we use or distribute our services or require that we release the source code subject to those licenses
- Rapid technological and industry changes and new entrants could adversely impact our services
- Existing or future laws and regulations could harm our business
- We may be exposed to liabilities that other entertainment service providers would not customarily be subject to
- Our business and prospects depend on the strength of our brands
- We are a “controlled company” within the meaning of the NASDAQ listing rules and, as a result, qualify for, and rely on, exemptions from certain corporate governance requirements
- While we currently pay a quarterly cash dividend to holders of our common stock, we may change our dividend policy at any time
- Our principal stockholder has significant influence, including over actions requiring stockholder approval, and its interests may differ from the interests of other holders of our common stock

Because the risk factors referred to above could cause actual results or outcomes to differ materially from those expressed in any forward-looking statements made by us or on our behalf, you should not place undue reliance on any of these forward-looking statements. In addition, any forward-looking statement speaks only as of the date on which it is made, and we undertake no obligation to update any forward-looking statement or statements to reflect events or circumstances after the date on which the statement is made, to reflect the occurrence of unanticipated events or otherwise, except as required by law. New factors emerge from time to time, and it is not possible for us to predict which will arise or to assess with any precision the impact of each factor on our business or the extent to which any factor, or combination of factors, may cause actual results to differ materially from those contained in any forward-looking statements.

Special Note Regarding the Impact of the COVID-19 Pandemic on Our Business and Operations

The statements set forth below should be read in combination with the information contained in this Item 2., “Management’s Discussion and Analysis of Financial Condition and Results of Operations,” contained in this Quarterly Report on Form 10-Q.

General

In general, the COVID-19 pandemic, coupled with government issued stay-at-home orders, has had, and is continuing to have, a widespread and broad reaching effect on the economy. Beginning in late March, automakers idled plants and certain auto dealers have closed their retail operations. Vehicle sales have declined, sporting events have been cancelled, theaters remain closed and concerts have been postponed indefinitely. The impact of the COVID-19 pandemic on the travel industry has been far-reaching, adversely affecting airlines, hotels, cruise ships and theme parks. Unemployment rates, while improving, remain high as non-essential businesses have been closed and workers have been furloughed. Similarly, although media spending by businesses is recovering, spending continues to be down sharply compared to prior periods. While certain regions of the United States are in various phases of reopening, which includes the resumption of production for automakers and the reopening of many auto dealer locations, it is unclear what an economic recovery will look like after this historic shutdown of the economy as the United States continues to struggle with rolling outbreaks of the virus.

Against this background and these broad-based economic effects, the full extent to which the COVID-19 pandemic may negatively impact our business is still uncertain. The scope of the effects of the COVID-19 pandemic on our businesses depends on many factors beyond our control, and the effects are difficult to assess or predict with meaningful precision both generally and specifically as to our Sirius XM and Pandora businesses. The COVID-19 pandemic did not have a material effect on our revenues and expenses for the first quarter ended March 31, 2020, with the effects on our business first emerging in the quarter ended June 30, 2020, primarily as discussed below under "Business Performance Update".

Liquidity

To date, the COVID-19 pandemic and its related economic impact has not affected our capital and financial resources, including our liquidity position. We believe that we have sufficient cash and cash equivalents, as well as debt capacity, to cover

our estimated short-term and long-term funding needs, including amounts necessary to construct, launch and insure replacement satellites, as well as fund future stock repurchases, future dividend payments and pursue strategic opportunities. After initially halting our stock repurchase program, we resumed repurchasing of our common stock again during the quarter ended June 30, 2020 and expect to continue repurchasing our common stock subject to numerous factors, including but not limited to market conditions. We have not suspended our quarterly common stock dividend payments as a result of the COVID-19 pandemic. As of June 30, 2020, prior to the redemption of the $500 aggregate principal amount of outstanding 4.625% Notes and the $1,000 aggregate principal amount of outstanding 5.375% Notes on July 9, 2020, we had approximately $1,770 of cash on hand and $1,749 was available for future borrowing under our revolving credit facility (after giving effect to outstanding letters of credit).

The COVID-19 pandemic to date has not impacted our ability to access our traditional funding sources. The pandemic has not increased our costs of or reduced our access to capital under our revolving credit facility or the debt capital markets, and we do not believe it is reasonably likely to do so in the near-term. In addition, we do not expect the pandemic to affect our ongoing ability to meet the covenants in our debt instruments, including under our revolving credit facility. During the three months ended June 30, 2020, our subsidiary, Sirius XM, completed an offering of $1,500 of 4.125% Senior Notes due 2030. Subsequent to quarter end, on July 9, 2020, Sirius XM used the net proceeds from this offering, together with cash on hand, to redeem all of its outstanding 5.375% Senior Notes due 2025 at a redemption price of 102.688% of the principal amount thereof plus accrued and unpaid interest thereon to, but excluding, the redemption date and to redeem all of its outstanding 4.625% Senior Notes due 2023 at a redemption price of 100.771% of the principal amount thereof plus accrued and unpaid interest thereon to, but excluding, the redemption date. This financing was executed consistent with our past practices to opportunistically extend the maturities of our existing debt and not in response to the COVID-19 pandemic.

Business Performance Update

We remain focused on the well-being of our employees, customers and all those we serve while also taking responsive measures to adapt to the current environment. We have undertaken and are generally in the process of making a diverse range of operational adjustments in response to the effects of COVID-19 pandemic. We have taken actions to help ensure the continuity of our audio entertainment service through the COVID-19 pandemic, including activating our business continuity plans and implementing measures to enable employees to work remotely. From a customer care and support perspective, we have adjusted our operations with call center vendors as a result of their inability to fully staff their operations. These adjustments have included shifting call center demand to “chat” platforms, activating interactive voice response (or “IVR”) systems and online capabilities, and working with call center vendors to increase the capability for customer service agents to work remotely. We are focused on optimizing customer support performance in this new environment.

Included below is information regarding certain trends related to our Sirius XM and Pandora businesses.

Sirius XM Business. Sales of new cars in the United States were down approximately 48% in April compared to April 2019, to a seasonally adjusted annual rate of 8.6, recovering to 12.2 in May, and 13.0 in June. Used vehicle trial starts were down 5% for the quarter ended June 30, 2020 compared to the quarter ended June 30, 2019, and up 15% for the month of June 2020 compared to June 2019. For the first time in our history used car trial starts exceeded new car trial starts in the second quarter. Our aggregate Sirius XM trial subscription starts in the second quarter declined and that will result in fewer opportunities in the third quarter to convert consumers from trial subscriptions to self-pay subscriptions.

During the second quarter, while we experienced some decline in the rate at which purchasers and lessees of new cars converted from trial subscribers to self-pay subscribers of our satellite radio service, the decline was less than we originally expected. Similarly, used car conversion rates showed only a small impact from the COVID-19 pandemic. After a temporary lull, consumer response to our marketing campaigns has rebounded.

Our average self-pay monthly subscriber churn rates decreased from 1.8% during the quarter ended March 31, 2020 to 1.6% for the three months ended June 30, 2020. Vehicle related churn (churn resulting from a vehicle transaction by a consumer) and non-pay churn decreased during the second quarter, partially offset by an increase in voluntary churn (that is, churn resulting from consumers proactively canceling).

Against this background, we reported 264 thousand net new self-pay subscribers for the quarter ended June 30, 2020.

During the quarter ended June 30, 2020, the penetration rate of satellite radios in new vehicle sales was approximately 77%, an increase of nearly 500 basis points compared to the prior year period. This increase was due to rising penetration rate at certain OEMs, a favorable model-mix and a reduction in fleet vehicle sales as a percentage of total sales. Installations decreased 57% for the quarter ended June 30, 2020 compared to the quarter ended June 30, 2019, but have begun to recover as installations were down approximately 81% in April, 75% in May and 26% in June, compared to the same periods last year, as automakers reopened factories in May and ramped up production.

Pandora Business. Advertising revenue from our Pandora business has declined markedly since mid-March 2020. Several categories of advertisers cancelled or paused orders during the second quarter, and while we have seen recent increases in advertising orders, the outlook for future advertising revenue is uncertain. Pandora advertising revenue was down approximately 41% in April, 36% in May and 18% in June from the same periods last year.

Ad supported listener hours on our Pandora services decreased markedly following the implementation of stay-at-home orders in mid-March 2020, but improved during the second half of the quarter ended June 30, 2020 to modest declines on a year over year basis. Ad supported listener hours were down approximately 10% in April, 4% in May and 3% in June from the same periods last year.

Potential Impact on our Results of Operations

It is difficult to predict how the COVID-19 pandemic will affect our company in the long-term. Based on what we have observed to date, however, we have attempted below to provide an explanation of how the pandemic has affected, and will likely continue to affect, our business, including our revenue and expenses, over the next six months. We presently believe that the COVID-19 pandemic and its related economic impact has and will likely continue to:

- adversely affect our subscriber revenue due to the decline in sales of vehicles, reduced drive time, and the inability of our vendors to fully staff call centers;
- cause a decline in advertising revenues in our Pandora and Sirius XM businesses as third parties pull back on advertising spending generally;
- have an adverse effect on our equipment revenue and the sale of satellite radios, components and accessories;
- negatively impact our other revenue as the pandemic is anticipated to have similar adverse effects on Sirius XM Canada and its service as well as adversely affect our connected services business;
- reduce our revenue share and royalties expenses, although in our Pandora ad-supported service royalty reductions may not be commensurate with the decline in ad revenues;
- not significantly affect our programming and content expenses as we expect to continue to honor our agreements to acquire, create, promote and produce content, including our obligations in some cases to sports leagues that have cancelled significant portions of their seasons;
- reduce our customer service and billing costs as we may experience lower costs as a result of the inability of our vendors to fully staff the operation and management of customer service centers and the move of some customer service interactions to digital channels, although such cost reductions may be partially offset by increased bad debt expense;
- not significantly affect our transmission expenses and costs of equipment expenses;
- reduce subscriber acquisition costs as hardware subsidies paid to radio manufacturers, distributors and automakers and subsidies paid for chipsets and certain other components used in manufacturing radios are expected to decline as a result of a reduction in vehicle production;
- decrease sales and marketing expenses as the reduction in auto sales is anticipated to reduce trial subscription starts, the volume of our marketing campaigns and the associated expenses related to direct mail, outbound telemarketing and email communications, and as we may reduce our spending on marketing, advertising, media and production, and digital performance media;
- reduce our engineering, design and development expenses as a slower pace of hiring may slow the development of new products and services, including streaming and connected vehicle services, and research and development efforts in the ordinary course;
- reduce our general and administrative expenses as a result of reductions in compensation, travel and entertainment and other costs; and
- not affect our depreciation and amortization expenses.

Other Potential Impacts

We have taken actions to help ensure that our audio entertainment service will continue uninterrupted through the COVID-19 pandemic, including activating our business continuity plans and implementing steps to enable employees to work remotely. The impact of these actions on our workforce are also difficult to assess, but the experience has presented new challenges for our employees as they balance the demands of the pandemic with their daily operational role. To date, however, we do not believe that these remote work arrangements have adversely affected our ability to maintain our financial reporting systems, internal control over financial reporting and disclosure controls and procedures. In addition, we do not expect to encounter any significant challenges to our ability to maintain these systems and controls.

We also do not expect the pandemic to affect the assets on our balance sheet and our ability to timely account for those assets. For example, we do not anticipate making any significant changes as a result of the pandemic in judgments in determining the fair-value of assets measured in accordance with generally accepted accounting principles.

In addition, we do not anticipate any material impairments with respect to goodwill, indefinite life and definite life intangible assets, right of use assets or investments, increases in allowances for credit losses, restructuring charges, other expenses, or changes in accounting judgments that would have an adverse impact on our financial statements.

We are taking advantage of recent Federal tax relief to defer our portion of the social security payroll tax. This tax relief will not have a material impact on our liquidity position in either the short- or long-term. We have not received any financial assistance in the form of loans under the CARES Act.

You should not place undue reliance on any of our forward-looking statements. In addition, any forward-looking statement speaks only as of the date on which it is made, and we undertake no obligation to update any forward-looking statement or statements to reflect events or circumstances after the date on which the statement is made, to reflect the occurrence of unanticipated events or otherwise, except as required by law. New factors emerge from time to time, and it is not possible for us to predict which will arise or to assess with any precision the impact of each factor on our business or the extent to which any factor, or combination of factors, may cause actual results to differ materially from those contained in any forward-looking statements.

For additional discussion of the risks to our business related to the COVID-19 pandemic, see "Risk factors—Risks related to our business—The current coronavirus (COVID-19) pandemic is adversely impacting our business" contained in our Quarterly Report on Form 10-Q for the three months ended March 31, 2020. To the extent the COVID-19 pandemic or any other global health crisis does adversely impact our business or financial condition, it may also have the effect of heightening many of the other "Risk factors" included in our Annual Report on Form 10-K for the year ended December 31, 2019 and in our Quarterly Report on Form 10-Q for the three months ended March 31, 2020.

Executive Summary

We operate two complementary audio entertainment businesses - our Sirius XM business and our Pandora business.

Sirius XM

Our Sirius XM business features music, sports, entertainment, comedy, talk, news, traffic and weather channels, as well as infotainment services, in the United States on a subscription fee basis. The Sirius XM service is distributed through our two proprietary satellite radio systems and through the internet via applications for mobile devices, home devices and other consumer electronic equipment. Satellite radios are primarily distributed through automakers, retailers and our website. Our Sirius XM service is also available through our user interface, which we call "360L," that combines our satellite and streaming services into a single, cohesive in-vehicle entertainment experience. The primary source of revenue from our Sirius XM business is generated from subscription fees, with most of our customers subscribing to monthly, quarterly, semi-annual or annual plans. We also derive revenue from advertising on select non-music channels, direct sales of our satellite radios and accessories, and other ancillary services. As of June 30, 2020, our Sirius XM business had approximately 34.3 million subscribers.

In addition to our audio entertainment businesses, we provide connected vehicle services to several automakers. These services are designed to enhance the safety, security and driving experience of consumers. We also offer a suite of data services that includes graphical weather, fuel prices, sports schedules and scores and movie listings, a traffic information service that includes information as to road closings, traffic flow and incident data to consumers with compatible in-vehicle navigation systems, and real-time weather services in vehicles, boats and planes.

In May 2020, we terminated the Automatic Labs Inc. ("Automatic") service, which was part of our connected services business. Automatic operated a service for consumers and auto dealers and offered an install-it-yourself adapter and mobile application, which transformed older vehicles into connected vehicles. During the three and six months ended June 30, 2020, we recorded $24 of restructuring expenses in our unaudited consolidated statements of comprehensive income related to this termination of the service.

Sirius XM also holds a 70% equity interest and 33% voting interest in Sirius XM Canada Holdings Inc. ("Sirius XM Canada"). Sirius XM Canada's subscribers are not included in our subscriber count or subscriber-based operating metrics.

Pandora

Our Pandora business operates a music, comedy and podcast streaming discovery platform, offering a personalized experience for each listener wherever and whenever they want to listen, whether through mobile devices, car speakers or connected devices. Pandora enables listeners to create personalized stations and playlists, discover new content, hear artist- and expert-curated playlists, podcasts and select Sirius XM content as well as search and play songs and albums on-demand. Pandora is available as an ad-supported radio service, a radio subscription service, called Pandora Plus, and an on-demand subscription service, called Pandora Premium. As of June 30, 2020, Pandora had approximately 6.3 million subscribers. The majority of revenue from our Pandora business is generated from advertising on our Pandora ad-supported radio service. Pandora is the exclusive US ad sales representative for SoundCloud. Through this arrangement Pandora offers advertisers the ability to execute campaigns in the US across the Pandora and SoundCloud listening platforms. In addition, through AdsWizz, Pandora provides a comprehensive digital audio advertising technology platform, which connects audio publishers and advertisers with a variety of ad insertion, campaign trafficking, yield optimization, programmatic buying, marketplace and podcast monetization solutions. As of June 30, 2020, our Pandora business had approximately 59.6 million monthly active users.

On June 16, 2020, Sirius XM acquired Simplecast for $28 in cash. Simplecast is a podcast management and analytics platform, powering podcasts from creators and brands. Refer to Note 3 to our unaudited consolidated financial statements in Part I, Item I, of this Quarterly Report on Form 10-Q for more information on this acquisition.

In February 2020, Sirius XM completed a $75 investment in SoundCloud. SoundCloud is the world’s largest open audio platform, with a connected community of creators, listeners, and curators. SoundCloud’s platform enables its users to upload, promote, share and create audio entertainment. The minority investment complements the existing ad sales relationship between SoundCloud and Pandora.

Liberty Media

As of June 30, 2020, Liberty Media beneficially owned, directly and indirectly, approximately 73% of the outstanding shares of our common stock. As a result, we are a “controlled company” for the purposes of the NASDAQ corporate governance requirements.

Results of Operations

Actual Results

Set forth below are our results of operations for the three and six months ended June 30, 2020 compared with the three and six months ended June 30, 2019. The discussion of our results of operations for the three and six months ended June 30, 2020 and the three months ended June 30, 2019 includes the financial results of Pandora for the entire period, while the results of operations for the six months ended June 30, 2019 includes the financial results of Pandora from the date of the Pandora Acquisition, February 1, 2019. The inclusion of Pandora's results in the six months ended June 30, 2020 for the entire period may render direct comparisons with results for prior year period less meaningful. The results of operations are presented for each of our reporting segments for revenue and cost of services and on a consolidated basis for all other items.

	For the Three Months Ended June 30,		For the Six Months Ended June 30,		2020 vs 2019 Change			
					Three Months		Six Months	
	2020	2019	2020	2019	Amount	%	Amount	%
Revenue								
Sirius XM:								
Subscriber revenue	$ 1,453	$ 1,402	$ 2,910	$ 2,772	$ 51	4 %	$ 138	5 %
Advertising revenue	25	52	69	98	(27)	(52)%	(29)	(30)%
Equipment revenue	25	41	66	82	(16)	(39)%	(16)	(20)%
Other revenue	35	41	76	77	(6)	(15)%	(1)	(1)%
Total Sirius XM revenue	1,538	1,536	3,121	3,029	2	— %	92	3 %
Pandora:								
Subscriber revenue	125	135	253	223	(10)	(7)%	30	13 %
Advertising revenue	211	306	452	469	(95)	(31)%	(17)	(4)%
Total Pandora revenue	336	441	705	692	(105)	(24)%	13	2 %
Total consolidated revenue	1,874	1,977	3,826	3,721	(103)	(5)%	105	3 %
Cost of services								
Sirius XM:								
Revenue share and royalties	365	360	731	707	5	1 %	24	3 %
Programming and content	104	113	216	215	(9)	(8)%	1	— %
Customer service and billing	99	99	192	197	—	— %	(5)	(3)%
Transmission	30	25	57	50	5	20 %	7	14 %
Cost of equipment	4	6	8	12	(2)	(33)%	(4)	(33)%
Total Sirius XM cost of services	602	603	1,204	1,181	(1)	— %	23	2 %
Pandora:								
Revenue share and royalties	222	240	426	385	(18)	(8)%	41	11 %
Programming and content	6	3	12	7	3	100 %	5	71 %
Customer service and billing	23	21	48	36	2	10 %	12	33 %
Transmission	13	15	26	21	(2)	(13)%	5	24 %
Total Pandora cost of services	264	279	512	449	(15)	(5)%	63	14 %
Total consolidated cost of services	866	882	1,716	1,630	(16)	(2)%	86	5 %
Subscriber acquisition costs	48	104	147	212	(56)	(54)%	(65)	(31)%
Sales and marketing	217	232	442	415	(15)	(6)%	27	7 %
Engineering, design and development	61	74	132	128	(13)	(18)%	4	3 %
General and administrative	119	120	226	255	(1)	(1)%	(29)	(11)%
Depreciation and amortization	124	119	256	226	5	4 %	30	13 %
Acquisition and restructuring costs	24	7	24	83	17	243 %	(59)	(71)%
Total operating expenses	1,459	1,538	2,943	2,949	(79)	(5)%	(6)	— %
Income from operations	415	439	883	772	(24)	(5)%	111	14 %
Other (expense) income:								
Interest expense	(102)	(97)	(201)	(187)	(5)	(5)%	(14)	(7)%
Loss on extinguishment of debt	—	—	—	(1)	—	nm	1	nm
Other income (expense)	4	(3)	8	(2)	7	233 %	10	500 %
Total other (expense) income	(98)	(100)	(193)	(190)	2	2 %	(3)	(2)%
Income before income taxes	317	339	690	582	(22)	(6)%	108	19 %
Income tax expense	(74)	(76)	(154)	(157)	2	3 %	3	2 %
Net income	$ 243	$ 263	$ 536	$ 425	$ (20)	(8)%	$ 111	26 %

nm - not meaningful

Sirius XM Revenue

Refer to page 45 for our discussion on Sirius XM revenue.

Pandora Revenue

The six months ended June 30, 2020 includes Pandora's revenue for the entire period while the six months ended June 30, 2019 includes Pandora's revenue from the acquisition date, February 1, 2019. Refer to page 45 for our discussion on Pandora revenue.

Sirius XM Cost of Services

Refer to page 46 for our discussion on Sirius XM cost of services.

Pandora Cost of Services

The six months ended June 30, 2020 includes Pandora's cost of services for the entire period while the six months ended June 30, 2019 includes Pandora's cost of services from the acquisition date, February 1, 2019. Refer to page 46 for our discussion on Pandora cost of services.

Operating Costs

Subscriber Acquisition Costs are costs associated with our satellite radio service and include hardware subsidies paid to radio manufacturers, distributors and automakers; subsidies paid for chipsets and certain other components used in manufacturing radios; device royalties for certain radios and chipsets; product warranty obligations; and freight. The majority of subscriber acquisition costs are incurred and expensed in advance of acquiring a subscriber. Subscriber acquisition costs do not include advertising costs, marketing, loyalty payments to distributors and dealers of satellite radios or revenue share payments to automakers and retailers of satellite radios.

For the three months ended June 30, 2020 and 2019, subscriber acquisition costs were $48 and $104, respectively, a decrease of 54%, or $56, and decreased as a percentage of total revenue. For the six months ended June 30, 2020 and 2019, subscriber acquisition costs were $147 and $212, respectively, a decrease of 31% or $65, and decreased as a percentage of total revenue. The decreases were driven by a decline in OEM installations as a result of the COVID-19 pandemic as well as lower hardware subsidies as certain subsidy rates decreased.

Sales and Marketing includes costs for marketing, advertising, media and production, including promotional events and sponsorships; cooperative and artist marketing; and personnel related costs including salaries, commissions, and sales support. Marketing costs include expenses related to direct mail, outbound telemarketing, email communications, and digital performance media.

For the three months ended June 30, 2020 and 2019, sales and marketing expenses were $217 and $232, respectively, a decrease of 6%, or $15, and decreased as a percentage of total revenue. For the six months ended June 30, 2020 and 2019, sales and marketing expenses were $442 and $415, respectively, an increase of 7% or $27, and increased as a percentage of total revenue. The decrease for the three-month period was primarily due to lower personnel-related costs and lower travel and entertainment costs; partially offset by additional subscriber communications and acquisition campaigns. The increase for the six-month period was primarily due to the inclusion of Pandora for a full six months in the 2020 period, and additional subscriber communications, streaming services and products, retention programs and acquisition campaigns; partially offset by lower travel and entertainment costs.

Engineering, Design and Development consists primarily of compensation and related costs to develop chipsets and new products and services, including streaming and connected vehicle services, research and development for broadcast information systems and the design and development costs to incorporate Sirius XM radios into new vehicles manufactured by automakers.

For the three months ended June 30, 2020 and 2019, engineering, design and development expenses were $61 and $74, respectively, a decrease of 18%, or $13, and decreased as a percentage of total revenue. For the six months ended June 30, 2020 and 2019, engineering, design and development expenses were $132 and $128, respectively, an increase of 3% or $4, and increased as a percentage of total revenue. The decrease for the three-month period was driven by lower

personnel-related costs. The increase for the six-month period was primarily due to the inclusion of Pandora for a full six months in the 2020 period as well as higher data costs.

General and Administrative primarily consists of compensation and related costs for personnel and facilities, and include costs related to our finance, legal, human resources and information technologies departments.

For the three months ended June 30, 2020 and 2019, general and administrative expenses were $119 and $120, respectively, a decrease of 1%, or $1, but increased as a percentage of total revenue. For the six months ended June 30, 2020 and 2019, general and administrative expenses were $226 and $255, respectively, a decrease of 11% or $29, and decreased as a percentage of total revenue. The decrease for the three-month period was driven by the closure of a sales and use tax audit, offset by higher legal costs. The decrease for the six-month period was primarily driven by a one-time $25 legal settlement reserve associated with Do-Not-Call litigation recorded in the first quarter of 2019 and the closure of a sales and use tax audit in the second quarter of 2020, partially offset by higher legal costs and the inclusion of Pandora for a full six months in the 2020 period.

Depreciation and Amortization represents the recognition in earnings of the cost of assets used in operations, including our satellite constellations, property, equipment and intangible assets, over their estimated service lives.

For the three months ended June 30, 2020 and 2019, depreciation and amortization expense was $124 and $119, respectively, an increase of 4%, or $5. For the six months ended June 30, 2020 and 2019, depreciation and amortization expense was $256 and $226, respectively, an increase of 13% or $30. The increase was driven by additional assets placed in-service. The increase for the six-month period was also impacted by the inclusion of Pandora for a full six months.

Acquisition and Restructuring Costs represents expenses associated with the acquisitions of Pandora and Simplecast and restructuring costs.

For the three months ended June 30, 2020 and 2019, acquisition and restructuring costs were $24 and $7, respectively. For the six months ended June 30, 2020 and 2019, acquisition and restructuring costs were $24 and $83, respectively. The acquisition and restructuring costs for the three and six months ended June 30, 2020 include costs associated with the termination of the Automatic service and costs associated with the acquisition of Simplecast. The acquisition and restructuring costs for the three and six months ended June 30, 2019 include costs associated with the Pandora Acquisition as well as related reorganization costs.

Other (Expense) Income

Interest Expense includes interest on outstanding debt.

For the three months ended June 30, 2020 and 2019, interest expense was $102 and $97, respectively. For the six months ended June 30, 2020 and 2019, interest expense was $201 and $187, respectively. The increase was primarily driven by higher average debt due to the issuances of Sirius XM's 5.500% Senior Notes due 2029, 4.625% Senior Notes due 2024, and the 4.125% Senior Notes due 2030; partially offset by the redemption of Sirius XM's 6.00% Senior Notes due 2024, redemption of the Pandora convertible notes in 2019, and lower interest rates.

Loss on Extinguishment of Debt includes losses incurred as a result of the redemption of certain debt.

We recorded a $1 loss on extinguishment of debt during the six months ended June 30, 2019. The loss was due to the repurchase of $151 principal amount of Pandora's 1.75% Convertible Senior Notes due 2020. There was no loss on extinguishment of debt during the three and six months ended June 30, 2020.

Other Income (Expense) primarily includes realized and unrealized gains and losses from our Deferred Compensation Plan and other investments, interest and dividend income, our share of the income or loss from equity investments in Sirius XM Canada and SoundCloud, and transaction costs related to non-operating investments.

For the three months ended June 30, 2020 and 2019, other income (expense) was $4 and $(3), respectively. For the six months ended June 30, 2020 and 2019, other income (expense) was $8 and $(2), respectively. During the six months ended June 30, 2020, we recorded a one-time lawsuit settlement of $7.

Income Taxes

Income Tax Expense includes the change in our deferred tax assets, current federal and state tax expenses, and foreign withholding taxes.

For the three months ended June 30, 2020 and 2019, income tax expense was $74 and $76, respectively, and $154 and $157 for the six months ended June 30, 2020 and 2019, respectively.

Our effective tax rate for the three months ended June 30, 2020 and 2019 was 23.3% and 22.4%, respectively. Our effective tax rate for the six months ended June 30, 2020 and 2019 was 22.3% and 27.0%, respectively. The effective tax rates for the three and six months ended June 30, 2020 were primarily impacted by federal and state tax credits and the recognition of excess tax benefits related to share-based compensation. The effective tax rate for the three months ended June 30, 2019 was primarily impacted by the recognition of excess tax benefits related to share-based compensation. The effective tax rate for the six months ended June 30, 2019 was primarily impacted by the increase to the valuation allowance related to certain federal research and development credits that are no longer expected to be realizable. We estimate our effective tax rate for the year ending December 31, 2020 will be approximately 23%.

In connection with the Pandora Acquisition, we acquired gross net operating loss ("NOLs") carryforwards of approximately $1,287 for federal income tax purposes. These NOL carryforwards are available to offset future taxable income. The acquired NOLs are limited annually by Section 382 of the Internal Revenue Code but we expect to fully utilize those NOLs within the carryforward period.

Unaudited Pro Forma Results

Set forth below are our pro forma results of operations for the three and six months ended June 30, 2020 compared with the three and six months ended June 30, 2019. These pro forma results are based on estimates and assumptions, which we believe are reasonable. They are not the results that would have been realized had the Pandora Acquisition actually occurred on January 1, 2019 and are not indicative of our consolidated results of operations in future periods. The pro forma results primarily include adjustments related to amortization of acquired intangible assets, depreciation of property and equipment, acquisition costs, fair value gain or loss on the Pandora investment and associated tax impacts. Pro forma adjustments are not included for the acquisition of Simplecast. Please refer to the Footnotes to Results of Operations (pages 49 through 54) following our discussion of results of operations.

	For the Three Months Ended June 30,		For the Six Months Ended June 30,		2020 vs 2019 Change			
					Three Months		Six Months	
	2020	2019	2020	2019	Amount	%	Amount	%
Revenue	(Pro Forma)	(Pro Forma)	(Pro Forma)	(Pro Forma)				
Sirius XM:								
Subscriber revenue	$ 1,453	$ 1,402	$ 2,910	$ 2,772	$ 51	4 %	$ 138	5 %
Advertising revenue	25	52	69	98	(27)	(52)%	(29)	(30)%
Equipment revenue	25	41	66	82	(16)	(39)%	(16)	(20)%
Other revenue	37	43	80	81	(6)	(14)%	(1)	(1)%
Total Sirius XM revenue	1,540	1,538	3,125	3,033	2	— %	92	3 %
Pandora:								
Subscriber revenue	125	135	253	269	(10)	(7)%	(16)	(6)%
Advertising revenue	211	306	452	537	(95)	(31)%	(85)	(16)%
Total Pandora revenue	336	441	705	806	(105)	(24)%	(101)	(13)%
Total consolidated revenue	1,876	1,979	3,830	3,839	(103)	(5)%	(9)	— %
Cost of services								
Sirius XM:								
Revenue share and royalties	365	360	731	707	5	1 %	24	3 %
Programming and content	104	113	216	215	(9)	(8)%	1	— %
Customer service and billing	99	99	192	197	—	— %	(5)	(3)%
Transmission	30	25	57	50	5	20 %	7	14 %
Cost of equipment	4	6	8	12	(2)	(33)%	(4)	(33)%
Total Sirius XM cost of services	602	603	1,204	1,181	(1)	— %	23	2 %
Pandora:								
Revenue share and royalties	224	246	430	463	(22)	(9)%	(33)	(7)%
Programming and content	6	3	12	7	3	100 %	5	71 %
Customer service and billing	23	21	48	44	2	10 %	4	9 %
Transmission	13	15	26	26	(2)	(13)%	—	— %
Total Pandora cost of services	266	285	516	540	(19)	(7)%	(24)	(4)%
Total consolidated cost of services	868	888	1,720	1,721	(20)	(2)%	(1)	— %
Subscriber acquisition costs	48	104	147	212	(56)	(54)%	(65)	(31)%
Sales and marketing	217	232	442	451	(15)	(6)%	(9)	(2)%
Engineering, design and development	61	74	132	142	(13)	(18)%	(10)	(7)%
General and administrative	119	120	226	271	(1)	(1)%	(45)	(17)%
Depreciation and amortization	124	119	256	241	5	4 %	15	6 %
Acquisition and restructuring costs	24	—	24	—	24	nm	24	nm
Total operating expenses	1,461	1,537	2,947	3,038	(76)	(5)%	(91)	(3)%
Income from operations	415	442	883	801	(27)	(6)%	82	10 %
Other (expense) income:								
Interest expense	(102)	(97)	(201)	(189)	(5)	(5)%	(12)	(6)%
Loss on extinguishment of debt	—	—	—	(1)	—	nm	1	100 %
Other income (expense)	4	(3)	8	(1)	7	233 %	9	900 %
Total other (expense) income	(98)	(100)	(193)	(191)	2	2 %	(2)	(1)%
Income before income taxes	317	342	690	610	(25)	(7)%	80	13 %
Income tax expense	(74)	(77)	(154)	(164)	3	4 %	10	6 %
Net income	$ 243	$ 265	$ 536	$ 446	$ (22)	(8)%	$ 90	20 %
Adjusted EBITDA	$ 615	$ 618	$ 1,254	$ 1,184	$ (3)	— %	$ 70	6 %

nm - not meaningful

Sirius XM Revenue

Sirius XM Subscriber Revenue includes fees charged for self-pay and paid promotional subscriptions, U.S. Music Royalty Fees and other ancillary fees.

For the three months ended June 30, 2020 and 2019, subscriber revenue was $1,453 and $1,402, respectively, an increase of 4%, or $51. For the six months ended June 30, 2020 and 2019, subscriber revenue was $2,910 and $2,772, respectively, an increase of 5% or $138. The increases were primarily driven by higher self-pay revenue as a result of increases in certain subscription plans and higher U.S. Music Royalty Fees due to a higher music royalty rate.

Sirius XM Advertising Revenue includes the sale of advertising on Sirius XM's non-music channels.

For the three months ended June 30, 2020 and 2019, advertising revenue was $25 and $52, respectively, a decrease of 52%, or $27. For the six months ended June 30, 2020 and 2019, advertising revenue was $69 and $98, respectively, a decrease of 30% or $29. The decreases were due to lower advertising spend as a result of the impact of the COVID-19 pandemic primarily on news and sports channels related to the cancellation of live sporting events.

Sirius XM Equipment Revenue includes revenue and royalties from the sale of satellite radios, components and accessories.

For the three months ended June 30, 2020 and 2019, equipment revenue was $25 and $41, respectively, a decrease of 39% or $16. For the six months ended June 30, 2020 and 2019, equipment revenue was $66 and $82, respectively, a decrease of 20% or $16. The decreases were driven by lower royalty revenue as new vehicle production decreased due to the impact of the COVID-19 pandemic and by lower direct sales to consumers.

Sirius XM Other Revenue includes service and advisory revenue from our Sirius XM Canada, our connected vehicle services, and ancillary revenues.

For the three months ended June 30, 2020 and 2019, other revenue was $37 and $43, respectively, a decrease of 14%, or $6. For the six months ended June 30, 2020 and 2019, other revenue was $80 and $81, respectively, a decrease of 1% or $1. The decrease for the three-month period was primarily driven by lower revenue generated by our connected vehicle services, lower revenue from Sirius XM Canada and lower revenue from our rental car arrangements. The decrease for the six-month period was driven by lower revenue from Sirius XM Canada and lower revenue from our rental car arrangements, partially offset by higher revenue generated from our connected vehicle services.

Pandora Revenue

Pandora Subscriber Revenue includes fees charged for Pandora Plus and Pandora Premium subscriptions.

For the three months ended June 30, 2020 and 2019, Pandora subscriber revenue was $125 and $135, respectively, a decrease of 7%, or $10. For the six months ended June 30, 2020 and 2019, Pandora subscriber revenue was $253 and $269, respectively, a decrease of 6% or $16. The decreases were primarily due to the expiration of the one-year promotional subscriptions generated through an expired agreement with T-Mobile.

Pandora Advertising Revenue is generated primarily from audio, display and video advertising.

For the three months ended June 30, 2020 and 2019, Pandora advertising revenue was $211 and $306, respectively, a decrease of 31%, or $95. For the six months ended June 30, 2020 and 2019, Pandora advertising revenue was $452 and $537, respectively, a decrease of 16% or $85. The decreases were primarily due to lower advertising spend as a result of the impact of the COVID-19 pandemic.

Total Consolidated Revenue

Total Consolidated Revenue for the three months ended June 30, 2020 and 2019, was $1,876 and $1,979, respectively, a decrease of 5%, or $103. Total Consolidated Revenue for the six months ended June 30, 2020 and 2019, was $3,830 and $3,839, respectively, a slight decrease of $9.

Sirius XM Cost of Services

Sirius XM Cost of Services includes revenue share and royalties, programming and content, customer service and billing and transmission expenses.

Sirius XM Revenue Share and Royalties include royalties for transmitting content, including streaming royalties, as well as automaker, content provider and advertising revenue share.

For the three months ended June 30, 2020 and 2019, revenue share and royalties were $365 and $360, respectively, an increase of 1%, or $5, and increased as a percentage of total Sirius XM revenue. For the six months ended June 30, 2020 and 2019, revenue share and royalties were $731 and $707, respectively, an increase of 3%, or $24, and increased as a percentage of total Sirius XM revenue. The increases were driven by overall greater revenues subject to music royalties and revenue share.

Sirius XM Programming and Content includes costs to acquire, create, promote and produce content. We have entered into various agreements with third parties for music and non-music programming that require us to pay license fees and other amounts.

For the three months ended June 30, 2020 and 2019, programming and content expenses were $104 and $113, respectively, a decrease of 8%, or $9, and decreased as a percentage of total Sirius XM revenue. For the six months ended June 30, 2020 and 2019, programming and content expenses were $216 and $215, respectively, a slight increase of $1, but decreased as a percentage of total Sirius XM revenue. The decrease for the three-month period was driven by one-time benefits for reduced sports programming as a result of shortened sports seasons and lower live event programming costs due to the COVID-19 pandemic. The increase for the six-month period was primarily driven by higher content licensing costs as well as greater personnel-related costs partially offset by one-time benefits for reduced sports programming as a result of shortened sports seasons due to the COVID-19 pandemic.

Sirius XM Customer Service and Billing includes costs associated with the operation and management of internal and third-party customer service centers, and our subscriber management systems as well as billing and collection costs, bad debt expense, and transaction fees.

For the three months ended June 30, 2020 and 2019, customer service and billing expenses were $99. For the six months ended June 30, 2020 and 2019, customer service and billing expenses were $192 and $197, respectively, a decrease of 3%, or $5, and decreased as a percentage of total Sirius XM revenue. The decline for the six-month period was driven by reduced staffing resulting from stay at home orders issued in countries in which we or our vendors operate call centers and lower transaction costs from a one-time recovery of fees, partially offset by higher bad debt expense.

Sirius XM Transmission consists of costs associated with the operation and maintenance of our terrestrial repeater networks; satellites; satellite telemetry, tracking and control systems; satellite uplink facilities; studios; and delivery of our Internet streaming and connected vehicle services.

For the three months ended June 30, 2020 and 2019, transmission expenses were $30 and $25, respectively, an increase of 20%, or $5, and increased as a percentage of total Sirius XM revenue. For the six months ended June 30, 2020 and 2019, transmission expenses were $57 and $50, respectively, an increase of 14%, or $7, and increased as a percentage of total Sirius XM revenue. The increases were primarily driven by higher cloud hosting and wireless costs associated with our streaming services.

Sirius XM Cost of Equipment includes costs from the sale of satellite radios, components and accessories and provisions for inventory allowance attributable to products purchased for resale in our direct to consumer distribution channels.

For the three months ended June 30, 2020 and 2019, cost of equipment was $4 and $6, respectively, a decrease of 33%, or $2, but increased as a percentage of equipment revenue. For the six months ended June 30, 2020 and 2019, cost of equipment was $8 and $12, respectively, a decrease of 33%, or $4, and decreased as a percentage of equipment revenue. The decreases were primarily due to lower direct sales to consumers and lower inventory reserves.

Pandora Cost of Services

Pandora Cost of Services includes revenue share and royalties, programming and content, customer service and billing, and transmission expenses.

Pandora Revenue Share and Royalties includes licensing fees paid for streaming music or other content to our subscribers and listeners as well as revenue share paid to third party ad servers. We make payments to third party ad servers for the period the advertising impressions are delivered or click-through actions occur, and accordingly, we record this as a cost of service in the related period.

For the three months ended June 30, 2020 and 2019, revenue share and royalties were $224 and $246, respectively, a decrease of 9%, or $22, but increased as a percentage of total Pandora revenue. For the six months ended June 30, 2020 and 2019, revenue share and royalties were $430 and $463, respectively, a decrease of 7%, or $33, but increased as a percentage of total Pandora revenue. The decrease for the three-month period was primarily due to lower listening hours, lower subscriber revenue, and lower costs resulting from the presence of minimum guarantees associated with direct license agreements with major record labels in the prior year. The decrease for the six-month period was primarily driven by a reversal of a pre-acquisition reserve of $16 for royalties during the first quarter of 2020, lower listening hours, lower subscriber revenue, and lower costs resulting from the presence of minimum guarantees associated with direct license agreements with major record labels in the prior year.

Pandora Programming and Content includes costs to produce live listener events and promote content.

For the three months ended June 30, 2020 and 2019, programming and content expenses were $6 and $3, respectively, an increase of 100%, or $3, and increased as a percentage of total Pandora revenue. For the six months ended June 30, 2020 and 2019, programming and content expenses were $12 and $7, respectively, an increase of 71%, or $5, and increased as a percentage of total Pandora revenue. The increases were primarily attributable to higher personnel-related costs.

Pandora Customer Service and Billing includes transaction fees on subscription purchases through mobile app stores, and bad debt expense.

For the three months ended June 30, 2020 and 2019, customer service and billing expenses were $23 and $21, respectively, an increase of 10%, or $2, and increased as a percentage of total Pandora revenue. For the six months ended June 30, 2020 and 2019, customer service and billing expenses were $48 and $44, respectively, an increase of 9%, or $4, and increased as a percentage of total Pandora revenue. The increases were primarily driven by higher bad debt expense.

Pandora Transmission includes costs associated with content streaming, maintaining our streaming radio and on-demand subscription services and creating and serving advertisements through third-party ad servers.

For the three months ended June 30, 2020 and 2019, transmission expenses were $13 and $15, respectively, a decrease of 13%, or $2, but increased as a percentage of total Pandora revenue. For both the six months ended June 30, 2020 and 2019, transmission expenses were $26. The decrease for the three-month period was driven by lower streaming and personnel-related costs.

Operating Costs

Subscriber Acquisition Costs are costs associated with our satellite radio service and include hardware subsidies paid to radio manufacturers, distributors and automakers; subsidies paid for chipsets and certain other components used in manufacturing radios; device royalties for certain radios and chipsets; product warranty obligations; and freight. The majority of subscriber acquisition costs are incurred and expensed in advance of acquiring a subscriber. Subscriber acquisition costs do not include advertising costs, marketing, loyalty payments to distributors and dealers of satellite radios or revenue share payments to automakers and retailers of satellite radios.

For the three months ended June 30, 2020 and 2019, subscriber acquisition costs were $48 and $104, respectively, a decrease of 54%, or $56, and decreased as a percentage of total revenue. For the six months ended June 30, 2020 and 2019, subscriber acquisition costs were $147 and $212, respectively, a decrease of 31%, or $65, and decreased as a percentage of total revenue. The decreases were driven by a decline in OEM installations as a result of the COVID-19 pandemic as well as lower hardware subsidies as certain subsidy rates decreased.

Sales and Marketing includes costs for marketing, advertising, media and production, including promotional events and sponsorships; cooperative and artist marketing; and personnel related costs including salaries, commissions, and sales support. Marketing costs include expenses related to direct mail, outbound telemarketing, email communications, and digital performance media.

For the three months ended June 30, 2020 and 2019, sales and marketing expenses were $217 and $232, respectively, a decrease of 6%, or $15, and decreased as a percentage of total revenue. For the six months ended June 30, 2020 and 2019, sales and marketing expenses were $442 and $451, respectively, a decrease of 2%, or $9, and decreased as a percentage of total revenue. The decreases was primarily due to lower personnel-related costs and lower travel and entertainment costs, partially offset by additional subscriber communications and acquisition campaigns.

Engineering, Design and Development consists primarily of compensation and related costs to develop chipsets and new products and services, including streaming and connected vehicle services, research and development for broadcast information systems and costs associated with the incorporation of our radios into new vehicles manufactured by automakers.

For the three months ended June 30, 2020 and 2019, engineering, design and development expenses were $61 and $74, respectively, a decrease of 18%, or $13, and decreased as a percentage of total revenue. For the six months ended June 30, 2020 and 2019, engineering, design and development expenses were $132 and $142, respectively, a decrease of 7%, or $10, and decreased as a percentage of total revenue. The decreases were driven by lower personnel-related costs, partially offset by higher data costs.

General and Administrative primarily consists of compensation and related costs for personnel and facilities, and include costs related to our finance, legal, human resources and information technologies departments.

For the three months ended June 30, 2020 and 2019, general and administrative expenses were $119 and $120, respectively, a decrease of 1%, or $1, but increased as a percentage of total revenue. For the six months ended June 30, 2020 and 2019, general and administrative expenses were $226 and $271, respectively, a decrease of 17%, or $45, and decreased as a percentage of total revenue. The decrease for the three-month period was driven by the closure of a sales and use tax audit offset by higher legal costs. The decrease for the six-month period was primarily driven by a one-time $25 legal settlement reserve associated with Do-Not-Call litigation recorded in the first quarter of 2019, lower personnel costs, and the closure of a sales and use tax audit in the second quarter of 2020, partially offset by higher legal costs.

Depreciation and Amortization represents the recognition in earnings of the cost of assets used in operations, including our satellite constellations, property, equipment and intangible assets, over their estimated service lives.

For the three months ended June 30, 2020 and 2019, depreciation and amortization expense was $124 and $119, respectively, an increase of 4%, or $5. For the six months ended June 30, 2020 and 2019, depreciation and amortization expense was $256 and $241, respectively, an increase of 6%, or $15. The increases were driven by additional assets placed in-service.

Acquisition and Restructuring Costs represents expenses associated with the termination of the Automatic service and the acquisition of Simplecast.

For the both the three and six months ended June 30, 2020, acquisition and restructuring costs were $24. The acquisition and restructuring costs for the three and six months ended June 30, 2020 include costs associated with the termination of the Automatic service and costs associated with the acquisition of Simplecast. There were no acquisition and restructuring costs for the three and six months ended June 30, 2019.

Other (Expense) Income

Interest Expense includes interest on outstanding debt.

For the three months ended June 30, 2020 and 2019, interest expense was $102 and $97, respectively, an increase of 5%, or $5. For the six months ended June 30, 2020 and 2019, interest expense was $201 and $189, respectively, an increase of 6%, or $12. The increases were primarily driven by higher average debt due to the issuances of the 5.500% Senior Notes due 2029, the 4.625% Senior Notes due 2024 and the 4.125% Senior Notes due 2030; partially offset by the redemption of the 6.00% Senior Notes due 2024 and lower average interest rates.

Loss on Extinguishment of Debt, includes losses incurred as a result of the redemption of certain debt.

We recorded a $1 loss during the six months ended June 30, 2019. The loss was due to the repurchase of $151 principal amount of Pandora's 1.75% Convertible Senior Notes due 2020. There was no loss on extinguishment of debt during the six months ended June 30, 2020.

Other Income (Expense) primarily includes realized and unrealized gains and losses from our Deferred Compensation Plan and other investments, interest and dividend income, our share of the income or loss from our equity investments in Sirius XM Canada and SoundCloud, and transaction costs related to non-operating investments.

For the three months ended June 30, 2020 and 2019, other income (expense) was $4 and $(3), respectively. For the six months ended June 30, 2020 and 2019, other income (expense) was $8 and $(1), respectively. During the six months ended June 30, 2020, we recorded a one-time lawsuit settlement of $7.

Income Taxes

Income Tax Expense includes the change in our deferred tax assets, current federal and state tax expenses, and foreign withholding taxes.

For the three months ended June 30, 2020 and 2019, income tax expense was $74 and $77, respectively, and $154 and $164 for the six months ended June 30, 2020 and 2019, respectively.

Our effective tax rate for the three months ended June 30, 2020 and 2019 was 23.3% and 22.5%, respectively. Our effective tax rate for the six months ended June 30, 2020 and 2019 was 22.3% and 26.9%, respectively. The effective tax rates for the three and six months ended June 30, 2020 were primarily impacted by federal and state tax credits and the recognition of excess tax benefits related to share-based compensation. The effective tax rate for the three months ended June 30, 2019 was primarily impacted by the recognition of excess tax benefits related to share-based compensation. The effective tax rate for the six months ended June 30, 2019 was primarily impacted by the increase to the valuation allowance related to certain federal research and development credits that are no longer expected to be realizable. We estimate our effective tax rate for the year ending December 31, 2020 will be approximately 23%.

In connection with the Pandora Acquisition, we acquired gross NOL carryforwards of approximately $1,287 for federal income tax purposes. These NOL carryforwards are available to offset future taxable income. The acquired NOLs are limited annually by Section 382 of the Internal Revenue Code but we expect to fully utilize those NOLs within the carryforward period.

Footnotes to Pro Forma Results of Operations

The following tables reconcile our results of operations as reported to our *pro forma* results of operations for the three and six months ended June 30, 2020 and 2019 which includes the Pandora pre-acquisition financial information for the applicable periods and the effects of purchase price accounting. These pro forma results are based on estimates and assumptions, which we believe are reasonable. They are not the results that would have been realized had the Pandora Acquisition actually occurred on January 1, 2019 and are not indicative of our consolidated results of operations in future periods. The pro forma results primarily include adjustments related to amortization of acquired intangible assets, depreciation of property and equipment, acquisition costs, fair value gain or loss on the Pandora investment and associated tax impacts.

	Unaudited for the Three Months Ended June 30, 2020				
	As Reported	Predecessor Financial Information	Purchase Price Accounting Adjustments	Ref	Pro Forma
Revenue					
Sirius XM:					
Subscriber revenue	$ 1,453	$ —	$ —		$ 1,453
Advertising revenue	25	—	—		25
Equipment revenue	25	—	—		25
Other revenue	35	—	2	(a)	37
Total Sirius XM revenue	1,538	—	2		1,540
Pandora:					
Subscriber revenue	125	—	—		125
Advertising revenue	211	—	—		211
Total Pandora revenue	336	—	—		336
Total consolidated revenue	1,874	—	2		1,876
Cost of services					
Sirius XM:					
Revenue share and royalties	365	—	—		365
Programming and content	104	—	—		104
Customer service and billing	99	—	—		99
Transmission	30	—	—		30
Cost of equipment	4	—	—		4
Total Sirius XM cost of services	602	—	—		602
Pandora:					
Revenue share and royalties	222	—	2	(b)	224
Programming and content	6	—	—		6
Customer service and billing	23	—	—		23
Transmission	13	—	—		13
Total Pandora cost of services	264	—	2		266
Total consolidated cost of services	866	—	2		868
Subscriber acquisition costs	48	—	—		48
Sales and marketing	217	—	—		217
Engineering, design and development	61	—	—		61
General and administrative	119	—	—		119
Depreciation and amortization	124	—	—		124
Acquisition and restructuring costs	24	—	—		24
Total operating expenses	1,459	—	2		1,461
Income from operations	415	—	—		415
Other (expense) income:					
Interest expense	(102)	—	—		(102)
Loss on extinguishment of debt	—	—	—		—
Other (expense) income	4	—	—		4
Total other (expense) income	(98)	—	—		(98)
Income before income taxes	317	—	—		317
Income tax expense	(74)	—	—		(74)
Net income	$ 243	$ —	$ —		$ 243

(a) This adjustment eliminates the impact of additional revenue associated with certain programming agreements recorded as part of the merger of Sirius and XM (the "XM Merger").
(b) This adjustment includes the impact of additional expense associated with minimum guarantee royalty contracts recorded as part of the Pandora Acquisition.

	Unaudited for the Three Months Ended June 30, 2019				
	As Reported	Predecessor Financial Information	Purchase Price Accounting Adjustments	Ref	Pro Forma
Revenue					
Sirius XM:					
Subscriber revenue	$ 1,402	$ —	$ —		$ 1,402
Advertising revenue	52	—	—		52
Equipment revenue	41	—	—		41
Other revenue	41	—	2	(c)	43
Total Sirius XM revenue	1,536	—	2		1,538
Pandora:					
Subscriber revenue	135	—	—		135
Advertising revenue	306	—	—		306
Total Pandora revenue	441	—	—		441
Total consolidated revenue	1,977	—	2		1,979
Cost of services					
Sirius XM:					
Revenue share and royalties	360	—	—		360
Programming and content	113	—	—		113
Customer service and billing	99	—	—		99
Transmission	25	—	—		25
Cost of equipment	6	—	—		6
Total Sirius XM cost of services	603	—	—		603
Pandora:					
Revenue share and royalties	240	—	6	(d)	246
Programming and content	3	—	—		3
Customer service and billing	21	—	—		21
Transmission	15	—	—		15
Total Pandora cost of services	279	—	6		285
Total consolidated cost of services	882	—	6		888
Subscriber acquisition costs	104	—	—		104
Sales and marketing	232	—	—		232
Engineering, design and development	74	—	—		74
General and administrative	120	—	—		120
Depreciation and amortization	119	—	—		119
Acquisition and restructuring costs	7	—	(7)	(e)	—
Total operating expenses	1,538	—	(1)		1,537
Income from operations	439	—	3		442
Other (expense) income:					
Interest expense	(97)	—	—		(97)
Loss on extinguishment of debt	—	—	—		—
Other (expense) income	(3)	—	—		(3)
Total other (expense) income	(100)	—	—		(100)
Income before income taxes	339	—	3		342
Income tax expense	(76)	—	(1)	(f)	(77)
Net income	$ 263	$ —	$ 2		$ 265

(c) This adjustment eliminates the impact of additional revenue associated with certain programming agreements recorded as part of the XM Merger.
(d) This adjustment includes the impact of additional expense associated with minimum guarantee royalty contracts recorded as part of the Pandora Acquisition.
(e) This adjustment eliminates the impact of acquisition and other related costs.
(f) This adjustment to income taxes was calculated by applying Sirius XM's statutory tax rate at June 30, 2019 to the pro forma adjustments of $3.

	Unaudited for the Six Months Ended June 30, 2020				
	As Reported	Predecessor Financial Information	Purchase Price Accounting Adjustments	Ref	Pro Forma
Revenue					
Sirius XM:					
Subscriber revenue	$ 2,910	$ —	$ —		$ 2,910
Advertising revenue	69	—	—		69
Equipment revenue	66	—	—		66
Other revenue	76	—	4	(g)	80
Total Sirius XM revenue	3,121	—	4		3,125
Pandora:					
Subscriber revenue	253	—	—		253
Advertising revenue	452	—	—		452
Total Pandora revenue	705	—	—		705
Total consolidated revenue	3,826	—	4		3,830
Cost of services					
Sirius XM:					
Revenue share and royalties	731	—	—		731
Programming and content	216	—	—		216
Customer service and billing	192	—	—		192
Transmission	57	—	—		57
Cost of equipment	8	—	—		8
Total Sirius XM cost of services	1,204	—	—		1,204
Pandora:					
Revenue share and royalties	426	—	4	(h)	430
Programming and content	12	—	—		12
Customer service and billing	48	—	—		48
Transmission	26	—	—		26
Total Pandora cost of services	512	—	4		516
Total consolidated cost of services	1,716	—	4		1,720
Subscriber acquisition costs	147	—	—		147
Sales and marketing	442	—	—		442
Engineering, design and development	132	—	—		132
General and administrative	226	—	—		226
Depreciation and amortization	256	—	—		256
Acquisition and restructuring costs	24	—	—		24
Total operating expenses	2,943	—	4		2,947
Income from operations	883	—	—		883
Other (expense) income:					
Interest expense	(201)	—	—		(201)
Loss on extinguishment of debt	—	—	—		—
Other (expense) income	8	—	—		8
Total other (expense) income	(193)	—	—		(193)
Income before income taxes	690	—	—		690
Income tax expense	(154)	—	—		(154)
Net income	$ 536	$ —	$ —		$ 536

(g) This adjustment eliminates the impact of additional revenue associated with certain programming agreements recorded as part of the XM Merger.
(h) This adjustment includes the impact of additional expense associated with minimum guarantee royalty contracts recorded as part of the Pandora Acquisition.

	Unaudited for the Six Months Ended June 30, 2019				
	As Reported	Predecessor Financial Information (i)	Purchase Price Accounting Adjustments	Ref	Pro Forma
Revenue					
Sirius XM:					
Subscriber revenue	$ 2,772	$ —	$ —		$ 2,772
Advertising revenue	98	—	—		98
Equipment revenue	82	—	—		82
Other revenue	77	—	4	(j)	81
Total Sirius XM revenue	3,029	—	4		3,033
Pandora:					
Subscriber revenue	223	46	—		269
Advertising revenue	469	68	—		537
Total Pandora revenue	692	114	—		806
Total consolidated revenue	3,721	114	4		3,839
Cost of services					
Sirius XM:					
Revenue share and royalties	707	—	—		707
Programming and content	215	—	—		215
Customer service and billing	197	—	—		197
Transmission	50	—	—		50
Cost of equipment	12	—	—		12
Total Sirius XM cost of services	1,181	—	—		1,181
Pandora:					
Revenue share and royalties	385	71	7	(k)	463
Programming and content	7	—	—		7
Customer service and billing	36	8	—		44
Transmission	21	5	—		26
Total Pandora cost of services	449	84	7		540
Total consolidated cost of services	1,630	84	7		1,721
Subscriber acquisition costs	212	—	—		212
Sales and marketing	415	36	—		451
Engineering, design and development	128	14	—		142
General and administrative	255	16	—		271
Depreciation and amortization	226	6	9	(l)	241
Acquisition and restructuring costs	83	1	(84)	(m)	—
Total operating expenses	2,949	157	(68)		3,038
Income from operations	772	(43)	72		801
Other (expense) income:					
Interest expense	(187)	(2)	—		(189)
Loss on extinguishment of debt	(1)	—	—		(1)
Other (expense) income	(2)	1	—		(1)
Total other (expense) income	(190)	(1)	—		(191)
Income before income taxes	582	(44)	72		610
Income tax expense	(157)	—	(7)	(n)	(164)
Net income	$ 425	$ (44)	$ 65		$ 446

(i) Represents Pandora's results for the period January 1, 2019 through January 31, 2019.
(j) This adjustment eliminates the impact of additional revenue associated with certain programming agreements recorded as part of the XM Merger.
(k) This adjustment includes the impact of additional expense associated with minimum guarantee royalty contracts recorded as part of the Pandora Acquisition.
(l) This adjustment includes the impact of the additional amortization associated with the acquired intangible assets recorded as part of the Pandora Acquisition that are subject to amortization, partially offset by normal depreciation associated with assets revalued in purchase accounting.
(m) This adjustment eliminates the impact of acquisition and other related costs.

(n) This adjustment to income taxes was calculated by applying Sirius XM's statutory tax rate at June 30, 2019 to the pro forma adjustments of $72 and Pandora's loss before income tax of $44.

Key Financial and Operating Performance Metrics

In this section, we present certain financial performance measures some of which are presented as Non-GAAP items, which include free cash flow and adjusted EBITDA. We also present certain operating performance measures. Our adjusted EBITDA excludes the impact of share-based payment expense and certain purchase price accounting adjustments related to the XM Merger and the Pandora Acquisition. Additionally, when applicable, our adjusted EBITDA metric excludes the effect of significant items that do not relate to the on-going performance of our business. We use these Non-GAAP financial and operating performance measures to manage our business, to set operational goals and as a basis for determining performance-based compensation for our employees. See the accompanying glossary on pages 60 through 63 for more details and for the reconciliation to the most directly comparable GAAP measure (where applicable).

We believe these Non-GAAP financial and operating performance measures provide useful information to investors regarding our financial condition and results of operations. We believe these Non-GAAP financial and operating performance measures may be useful to investors in evaluating our core trends because they provide a more direct view of our underlying costs. We believe investors may use our adjusted EBITDA to estimate our current enterprise value and to make investment decisions. We believe free cash flow provides useful supplemental information to investors regarding our cash available for future subscriber acquisitions and capital expenditures, to repurchase or retire debt, to acquire other companies and our ability to return capital to stockholders. By providing these Non-GAAP financial and operating performance measures, together with the reconciliations to the most directly comparable GAAP measure (where applicable), we believe we are enhancing investors' understanding of our business and our results of operations.

Our Non-GAAP financial measures should be viewed in addition to, and not as an alternative for or superior to, our reported results prepared in accordance with GAAP. In addition, our Non-GAAP financial measures may not be comparable to similarly-titled measures by other companies. Please refer to the glossary (pages 60 through 63) for a further discussion of such Non-GAAP financial and operating performance measures and reconciliations to the most directly comparable GAAP measure (where applicable). Subscribers and subscription related revenues and expenses associated with our connected vehicle services and Sirius XM Canada are not included in Sirius XM's subscriber count or subscriber-based operating metrics.

Set forth below are our subscriber balances as of June 30, 2020 compared to June 30, 2019.

	As of June 30,		2020 vs 2019 Change	
(subscribers in thousands)	**2020**	**2019**	**Amount**	**%**
Sirius XM				
Self-pay subscribers	30,311	29,336	975	3 %
Paid promotional subscribers	3,939	5,009	(1,070)	(21)%
Ending subscribers	34,250	34,345	(95)	— %
Traffic users	9,414	9,150	264	3 %
Sirius XM Canada subscribers	2,607	2,702	(95)	(4)%
Pandora				
Monthly active users - all services	59,604	64,948	(5,344)	(8)%
Self-pay subscribers	6,256	6,224	32	1 %
Paid promotional subscribers	46	733	(687)	(94)%
Ending subscribers	6,302	6,957	(655)	(9)%

The following table contains our Non-GAAP pro forma financial and operating performance measures which are based on our adjusted results of operations for the three and six months ended June 30, 2020 and 2019.

(subscribers in thousands)	For the Three Months Ended June 30,		For the Six Months Ended June 30,		2020 vs 2019 Change			
					Three Months		Six Months	
	2020	2019	2020	2019 [1]	Amount	%	Amount	%
Sirius XM								
Self-pay subscribers	264	290	333	421	(26)	(9)%	(88)	(21)%
Paid promotional subscribers	(780)	(116)	(992)	(115)	(664)	572 %	(877)	763 %
Net additions	(516)	174	(659)	306	(690)	(397)%	(965)	(315)%
Weighted average number of subscribers	34,288	34,126	34,556	34,071	162	— %	485	1 %
Average self-pay monthly churn	1.6 %	1.7 %	1.7 %	1.7 %	(0.1)%	(6)%	— %	— %
ARPU [2]	$ 13.96	$ 13.83	$ 13.95	$ 13.67	$ 0.13	1 %	$ 0.28	2 %
SAC, per installation	$ 20.14	$ 22.74	$ 20.14	$ 23.40	$ (2.60)	(11)%	$ (3.26)	(14)%
Pandora								
Self-pay subscribers	40	64	91	310	(24)	(38)%	(219)	(71)%
Paid promotional subscribers	(4)	(3)	(3)	(23)	(1)	33 %	20	(87)%
Net additions [3]	36	61	88	287	(25)	(41)%	(199)	(69)%
Weighted average number of subscribers	6,223	6,873	6,233	6,791	(650)	(9)%	(558)	(8)%
ARPU	$ 6.70	$ 6.53	$ 6.77	$ 6.61	$ 0.17	3 %	$ 0.16	2 %
Ad supported listener hours (in billions)	3.29	3.49	6.41	6.91	(0.20)	(6)%	(0.50)	(7)%
Advertising revenue per thousand listener hours (RPM)	$ 55.23	$ 80.14	$ 61.23	$ 71.46	$ (24.91)	(31)%	$ (10.23)	(14)%
Licensing costs per thousand listener hours (LPM)	$ 37.16	$ 37.91	$ 37.12	$ 37.28	$ (0.75)	(2)%	$ (0.16)	— %
Licensing costs per paid subscriber (LPU)	$ 4.06	$ 4.16	$ 4.08	$ 4.06	$ (0.10)	(2)%	$ 0.02	— %
Total Company								
Adjusted EBITDA	$ 615	$ 618	$ 1,254	$ 1,184	$ (3)	— %	$ 70	6 %
Free cash flow [4]	$ 503	$ 474	$ 851	$ 774	$ 29	6 %	$ 77	10 %

(1) Includes Pandora's results for the six-month period, including pre-acquisition results for the period January 1, 2019 through January 31, 2019.
(2) ARPU for Sirius XM excludes subscriber revenue from our connected vehicle services of $42 and $38 for the three months and $86 and $75 for the six months ended June 30, 2020 and 2019, respectively.
(3) Amounts may not sum as a result of rounding.
(4) Free cash flow has not been adjusted for Pandora's pre-acquisition results.

Sirius XM

Subscribers. At June 30, 2020, Sirius XM had approximately 34,250 subscribers, a decrease of 95, from the approximately 34,345 subscribers as of June 30, 2019. The decrease in subscribers was primarily due to the decrease in paid promotional, partially offset by growth in our self-pay subscriber base from subsequent owner trial conversions as well as subscriber win back programs.

For the three months ended June 30, 2020 and 2019, net subscriber additions were (516) and 174, respectively. For the six months ended June 30, 2020 and 2019, net subscriber additions were (659) and 306, respectively. Paid promotional subscribers decreased due to declines in shipments and trial subscription starts from automakers offering paid subscriptions due to the COVID-19 pandemic. Self-pay net additions decreased year over year as increases in subsequent owner trial conversions and reductions in vehicle related and non-pay churn were offset by reduced additions from win back programs, new car conversions, and aftermarket programs as well as increases in voluntary churn.

Traffic Users. We offer services that provide graphic information as to road closings, traffic flow and incident data to consumers with compatible in-vehicle navigation systems. At June 30, 2020, Sirius XM had approximately 9,414 traffic users, an increase of 264 users, or 3%, from the approximately 9,150 traffic users as of June 30, 2019.

Sirius XM Canada Subscribers. At June 30, 2020, Sirius XM Canada had approximately 2,607 subscribers, a decrease of 95, or 4%, from the approximately 2,702 Sirius XM Canada subscribers as of June 30, 2019.

Average Self-pay Monthly Churn is derived by dividing the monthly average of self-pay deactivations for the period by the average number of self-pay subscribers for the period. (See accompanying glossary on pages 60 through 63 for more details.)

For the three months ended June 30, 2020 and 2019, our average self-pay monthly churn rate was 1.6% and 1.7%, respectively. For both the six months ended June 30, 2020 and 2019, our average self-pay monthly churn rate was 1.7%. The decrease for the three-month period was primarily driven by lower vehicle and non-pay churn, partially offset by increased voluntary churn.

ARPU is derived from total earned Sirius XM subscriber revenue (excluding revenue derived from our connected vehicle services) and net advertising revenue, divided by the number of months in the period, divided by the daily weighted average number of subscribers for the period. (See the accompanying glossary on pages 60 through 63 for more details.)

For the three months ended June 30, 2020 and 2019, subscriber ARPU - Sirius XM was $13.96 and $13.83, respectively. For the six months ended June 30, 2020 and 2019, subscriber ARPU - Sirius XM was $13.95 and $13.67, respectively. The increase was driven by an increase in certain subscription rates and the U.S. Music Royalty Fee.

SAC, Per Installation, is derived from subscriber acquisition costs and margins from the sale of radios, components and accessories (excluding connected vehicle services), divided by the number of satellite radio installations in new vehicles and shipments of aftermarket radios for the period. (See the accompanying glossary on pages 60 through 63 for more details.)

For the three months ended June 30, 2020 and 2019, SAC, per installation, was $20.14 and $22.74, respectively. For the six months ended June 30, 2020 and 2019, SAC, per installation, was $20.14 and $23.40, respectively The decreases were driven by reductions to OEM hardware subsidy rates.

Pandora

Monthly Active Users. At June 30, 2020, Pandora had approximately 59,604 monthly active users, a decrease of 5,344 monthly active users, or 8%, from the 64,948 monthly active users as of June 30, 2019. The decrease in monthly active users was driven by declines in user engagement related to changes in commuting patterns, an increase in ad-supported listener churn and a decrease in the number of new users.

Subscribers. At June 30, 2020, Pandora had approximately 6,302 subscribers, a decrease of 655, or 9%, from the approximately 6,957 as of June 30, 2019.

For the three months ended June 30, 2020 and 2019, net subscriber additions were 36 and 61, respectively. For the six months ended June 30, 2020 and 2019, net subscriber additions were 88 and 287, respectively. The net subscriber decrease was driven by fewer trial starts.

ARPU is defined as average monthly revenue per paid subscriber on our Pandora subscription services. (See the accompanying glossary on pages 60 through 63 for more details.)

For the three months ended June 30, 2020 and 2019, subscriber ARPU - Pandora was $6.70 and $6.53, respectively. For the six months ended June 30, 2020 and 2019, subscriber ARPU - Pandora was $6.77 and $6.61, respectively. The increases in subscriber ARPU were primarily driven by the expiration of a lower rate T-Mobile plan and an increase in Pandora Premium plans.

Ad supported listener hours are a key indicator of our Pandora business and the engagement of our Pandora listeners. We include ad supported listener hours related to Pandora's non-radio content offerings in the definition of listener hours.

For the three months ended June 30, 2020 and 2019, ad supported listener hours were 3,286 and 3,490, respectively. For the six months ended June 30, 2020 and 2019, ad supported listener hours were 6,412 and 6,910, respectively. The decrease in ad supported listener hours was primarily driven by the decline in monthly active users, partially offset by higher hours per active user.

RPM is a key indicator of our ability to monetize advertising inventory created by our listener hours on the Pandora services. Ad RPM is calculated by dividing advertising revenue by the number of thousands of listener hours of our Pandora advertising-based service.

For the three months ended June 30, 2020 and 2019, RPM was $55.23 and $80.14, respectively. For the six months ended June 30, 2020 and 2019, RPM was $61.23 and $71.46, respectively. The decreases were a result of lower sell-through percentages as a result of the COVID-19 pandemic.

LPM is tracked for our non-subscription, ad-supported service across all Pandora delivery platforms. The content acquisition costs included in our ad LPM calculations are based on the rates set by our license agreements with record labels, performing rights organizations and music publishers or the applicable rates set by the Copyright Royalty Board if we have not entered into a license agreement with the copyright owner of a particular sound recording.

For the three months ended June 30, 2020 and 2019, LPM was $37.16 and $37.91, respectively. For the six months ended June 30, 2020 and 2019, LPM was $37.12 and $37.28, respectively. The decreases were primarily a result of lower advertising revenue from the COVID-19 pandemic impact due to lower sell-through percentages and lower CPM rates.

LPU is defined as average monthly licensing costs per paid subscriber on our Pandora subscription services. LPU is a key measure of our ability to manage costs for our subscription services.

For the three months ended June 30, 2020 and 2019, LPU was $4.06 and $4.16, respectively. For the six months ended June 30, 2020 and 2019, LPU was $4.08 and $4.06, respectively. The decrease for the three-month period was driven by minimum guarantees associated with our direct license agreements with major record labels in the prior year. The increase for the six-month period was due to increased publisher rates offset by minimum guarantees associated with our direct license agreements with major record labels in the prior year.

Total Company

*Adjusted EBITDA. A*djusted EBITDA is defined as net income before interest expense, income tax expense and depreciation and amortization, adjusted for pro forma information which includes of the predecessor periods. (Pandora's results for the period January 1, 2019 through January 31, 2019.) Adjusted EBITDA excludes the impact of other expense (income), loss on extinguishment of debt, other non-cash charges, such as certain purchase price accounting adjustments, share-based payment expense, legal settlements and reserves, and acquisition and restructuring costs (if applicable). (See the accompanying glossary on pages 60 through 63 for a reconciliation to GAAP and for more details.)

For the three months ended June 30, 2020 and 2019, adjusted EBITDA was $615 and $618, respectively, a decrease of 0%, or $3. For the six months ended June 30, 2020 and 2019, adjusted EBITDA was $1,254 and $1,184, respectively, an increase of 6%, or $70. The increase was due to growth in Sirius XM subscriber revenue from higher U.S. Music Royalty Fee as a result of a higher music royalty rate and an increase in the daily weighted average number of subscribers, lower revenue share costs, personnel-related costs and subscriber acquisition costs; partially offset by lower advertising revenue.

Free Cash Flow includes cash provided by operations, net of additions to property and equipment, and restricted and other investment activity. (See the accompanying glossary on pages 60 through 63 for a reconciliation to GAAP and for more details.)

For the three months ended June 30, 2020 and 2019, free cash flow was $503 and $474, respectively, an increase of $29, or 6%. For the six months ended June 30, 2020 and 2019, free cash flow was $851 and $774, respectively, an increase of $77, or 10%. The increases were driven by growth in operating performance as well as lower capital expenditures. We paid a one-time amount of $25 for a legal settlement during the six months ended June 30, 2019.

Liquidity and Capital Resources

Cash Flows for the six months ended June 30, 2020 compared with the six months ended June 30, 2019.

The following table presents a summary of our cash flow activity for the periods set forth below:

	For the Six Months Ended June 30,		
	2020	2019	2020 vs 2019
Net cash provided by operating activities	$ 1,007	$ 941	$ 66
Net cash (used in) provided by investing activities	(265)	209	(474)
Net cash provided by (used in) financing activities	919	(989)	1,908
Net increase in cash, cash equivalents and restricted cash	1,661	161	1,500
Cash, cash equivalents and restricted cash at beginning of period	120	65	55
Cash, cash equivalents and restricted cash at end of period	$ 1,781	$ 226	$ 1,555

Cash Flows Provided by Operating Activities

Cash flows provided by operating activities increased by $66 to $1,007 for the six months ended June 30, 2020 from $941 for the six months ended June 30, 2019.

Our largest source of cash provided by operating activities is cash generated by subscription and subscription-related revenues. We also generate cash from the sale of advertising on Pandora, advertising on certain non-music channels on Sirius XM and the sale of satellite radios, components and accessories. Our primary uses of cash from operating activities include revenue share and royalty payments to distributors, programming and content providers, and payments to radio manufacturers, distributors and automakers. In addition, uses of cash from operating activities include payments to vendors to service, maintain and acquire listeners and subscribers, general corporate expenditures, and compensation and related costs. We paid a one-time amount of $25 for a legal settlement during the six months ended June 30, 2019.

Cash Flows (Used in) Provided by Investing Activities

Cash flows used in investing activities in the six months ended June 30, 2020 were primarily due to our $75 investment in SoundCloud, the acquisition of Simplecast of $28, spending primarily for capitalized software and hardware, and to construct replacement satellites. Cash flows provided by investing activities in the six months ended June 30, 2019 were primarily due to cash received of $313 from the Pandora Acquisition and from the sale of short-term investments of $72, partially offset by additional spending primarily for capitalized software and hardware, and to construction replacement satellites. We spent $109 and $92 on capitalized software and hardware as well as $20 and $36 to construct replacement satellites during the six months ended June 30, 2020 and 2019, respectively.

Cash Flows Provided by (Used in) Financing Activities

Cash flows provided by (used in) financing activities consists of the issuance and repayment of long-term debt, the purchase of common stock under our share repurchase program, the payment of cash dividends and taxes paid in lieu of shares issued for stock-based compensation. Proceeds from long-term debt have been used to fund our operations, construct and launch new satellites, invest in other infrastructure improvements and purchase shares of our common stock.

Cash flows provided by financing activities in the six months ended June 30, 2020 were primarily due to the issuance of $1,483 in aggregate principal amount of 4.125% Senior Notes due 2030, net of costs; partially offset by purchase and retirement of shares of our common stock under our repurchase program for $399, the payment of cash dividends of $117, and payment of $43 for taxes paid in lieu of shares issued for share-based compensation. Cash flows used in financing activities in the six months ended June 30, 2019 were primarily due to the purchase and retirement for $1,474 of shares of our common stock under our repurchase program, repayment under the Credit Facility of $439, the repurchase for $152 of Pandora's 1.75% Convertible Senior Notes due 2020, the payment of cash dividends of $113 and payment of $47 for taxes paid in lieu of shares issued for share-based compensation, partially offset by the issuance of $1,236 in aggregate principal amount of Sirius XM's 5.500% Senior Notes due 2029, net of costs.

Future Liquidity and Capital Resource Requirements

Based upon our current business plans, we expect to fund operating expenses, capital expenditures, including the construction of replacement satellites, working capital requirements, interest payments, taxes and scheduled maturities of our

debt with existing cash, cash flow from operations and borrowings under our Credit Facility. Additionally, we used our cash balance as of June 30, 2020 (including net proceeds from the issuance of the 4.125% Senior Note due 2030) to redeem our 5.375% Senior Notes due 2025 and 4.625% Senior Notes due 2023 on July 9, 2020. As of June 30, 2020, $0 was outstanding under our Credit Facility. As the amount available for future borrowing is reduced by $1 related to letters of credit issued for the benefit of Pandora, $1,749 was available for future borrowing under our Credit Facility. We believe that we have sufficient cash and cash equivalents, as well as debt capacity, to cover our estimated short-term and long-term funding needs, including amounts to construct, launch and insure replacement satellites, as well as fund future stock repurchases, future dividend payments and pursue strategic opportunities.

Our ability to meet our debt and other obligations depends on our future operating performance and on economic, financial, competitive and other factors. We continually review our operations for opportunities to adjust the timing of expenditures to ensure that sufficient resources are maintained.

We regularly evaluate our business plans and strategy. These evaluations often result in changes to our business plans and strategy, some of which may be material and significantly change our cash requirements. These changes in our business plans or strategy may include: the acquisition of unique or compelling programming; the development and introduction of new features or services; significant new or enhanced distribution arrangements; investments in infrastructure, such as satellites, equipment or radio spectrum; and acquisitions and investments, including acquisitions and investments that are not directly related to our existing business.

We may from time to time purchase our outstanding debt through open market purchases, privately negotiated transactions or otherwise. Purchases or retirement of debt, if any, will depend on prevailing market conditions, liquidity requirements, contractual restrictions and other factors. The amounts involved may be material.

Capital Return Program

As of June 30, 2020, our board of directors had authorized for repurchase an aggregate of $14,000 of our common stock. As of June 30, 2020, our cumulative repurchases since December 2012 under our stock repurchase program totaled 3,117 shares for $13,241, and $759 remained available for additional repurchases under our existing stock repurchase program authorization. On July 14, 2020, our board of directors approved an additional $2,000 of common stock repurchases, increasing our total authorization to $16,000 since the inception of the program.

Shares of common stock may be purchased from time to time on the open market and in privately negotiated transactions, including in accelerated stock repurchase transactions and transactions with Liberty Media and its affiliates. We intend to fund the additional repurchases through a combination of cash on hand, cash generated by operations and future borrowings. The size and timing of any purchases will be based on a number of factors, including price and business and market conditions.

On July 14, 2020, our board of directors declared a quarterly dividend in the amount of $0.01331 per share of common stock payable on August 31, 2020 to stockholders of record as of the close of business on August 7, 2020. Our board of directors expects to declare regular quarterly dividends, in an aggregate annual amount of $0.05324 per share of common stock.

Debt Covenants

The indentures governing Sirius XM's senior notes and Pandora's convertible notes and the agreement governing the Sirius XM Credit Facility include restrictive covenants. As of June 30, 2020, we were in compliance with such covenants. For a discussion of our “Debt Covenants,” refer to Note 13 to our unaudited consolidated financial statements in Part I, Item I, of this Quarterly Report on Form 10-Q.

Off-Balance Sheet Arrangements

We do not have any significant off-balance sheet arrangements other than those disclosed in Note 16 to our unaudited consolidated financial statements in Part I, Item I, of this Quarterly Report on Form 10-Q that are reasonably likely to have a material effect on our financial condition, results of operations, liquidity, capital expenditures or capital resources.

Contractual Cash Commitments

For a discussion of our “Contractual Cash Commitments,” refer to Note 16 to our unaudited consolidated financial statements in Part I, Item I, of this Quarterly Report on Form 10-Q.

Related Party Transactions

For a discussion of "Related Party Transactions," refer to Note 12 to our unaudited consolidated financial statements in Part I, Item I, of this Quarterly Report on Form 10-Q.

Critical Accounting Policies and Estimates

For a discussion of our "Critical Accounting Policies and Estimates," refer to "Management's Discussion and Analysis of Financial Condition and Results of Operations" in our Annual Report on Form 10-K for the year ended December 31, 2019. There have been no material changes to our critical accounting policies and estimates since December 31, 2019.

Glossary

Monthly active users - the number of distinct registered users on the Pandora services, including subscribers, which have consumed content within the trailing 30 days to the end of the final calendar month of the period. The number of monthly active users on the Pandora services may overstate the number of unique individuals who actively use our Pandora service, as one individual may use multiple accounts. To become a registered user on the Pandora services, a person must sign-up using an email address or phone number, or access our service using a device with a unique identifier, which we use to create an account for our service.

Average self-pay monthly churn - the Sirius XM monthly average of self-pay deactivations for the period divided by the average number of self-pay subscribers for the period.

Adjusted EBITDA - EBITDA is defined as net income before interest expense, income tax expense and depreciation and amortization. We adjust EBITDA to exclude the impact of other expense (income) as well as certain other charges discussed below. Adjusted EBITDA is a Non-GAAP financial measure that excludes or adjusts for (if applicable): (i) certain adjustments as a result of the purchase price accounting for the XM Merger and the Pandora Acquisition, (ii) predecessor net income adjusted for certain expenses, including depreciation and amortization, other income (loss), and share-based payment expense for January 2019, (iii) share-based payment expense and (iv) other significant operating expense (income) that do not relate to the on-going performance of our business. We believe adjusted EBITDA is a useful measure of the underlying trend of our operating performance, which provides useful information about our business apart from the costs associated with our capital structure and purchase price accounting. We believe investors find this Non-GAAP financial measure useful when analyzing our past operating performance with our current performance and comparing our operating performance to the performance of other communications, entertainment and media companies. We believe investors use adjusted EBITDA to estimate our current enterprise value and to make investment decisions. As a result of large capital investments in our satellite radio system, our results of operations reflect significant charges for depreciation expense. We believe the exclusion of share-based payment expense is useful as it is not directly related to the operational conditions of our business. We also believe the exclusion of the legal settlements and reserves, acquisition related costs, and loss on extinguishment of debt, to the extent they occur during the period, is useful as they are significant expenses not incurred as part of our normal operations for the period.

Adjusted EBITDA has certain limitations in that it does not take into account the impact to our statements of comprehensive income of certain expenses, including share-based payment expense and certain purchase price accounting for the XM Merger and the Pandora Acquisition. We endeavor to compensate for the limitations of the Non-GAAP measure presented by also providing the comparable GAAP measure with equal or greater prominence and descriptions of the reconciling items, including quantifying such items, to derive the Non-GAAP measure. Investors that wish to compare and evaluate our operating results after giving effect for these costs, should refer to net income as disclosed in our unaudited consolidated statements of comprehensive income. Since adjusted EBITDA is a Non-GAAP financial performance measure, our calculation of adjusted EBITDA may be susceptible to varying calculations; may not be comparable to other similarly titled measures of other companies; and should not be considered in isolation, as a substitute for, or superior to measures of financial performance prepared in accordance with GAAP. The reconciliation of net income to the adjusted EBITDA is calculated as follows:

	For the Three Months Ended June 30,		For the Six Months Ended June 30,	
	2020	2019	2020	2019
Net income:	$ 243	$ 263	$ 536	$ 425
Add back items excluded from Adjusted EBITDA:				
Legal settlements and reserves	—	—	(16)	25
Acquisition and restructuring costs [1]	24	7	24	83
Share-based payment expense	52	57	107	106
Depreciation and amortization	124	119	256	226
Interest expense	102	97	201	187
Loss on extinguishment of debt	—	—	—	1
Other expense (income)	(4)	3	(8)	2
Income tax expense	74	76	154	157
Purchase price accounting adjustments:				
Revenues	2	2	4	4
Operating expenses	(2)	(6)	(4)	(7)
Pro forma adjustments [2]	—	—	—	(25)
Adjusted EBITDA	$ 615	$ 618	$ 1,254	$ 1,184

(1) Acquisition and restructuring costs include $21 of share-based compensation expense for the six months ended June 30, 2019.
(2) Pro forma adjustment for six months ended June 30, 2019 includes Pandora's Net income for the six months ended June 30, 2019 of $(44) plus Depreciation and amortization of $6, Share-based payment expense of $11, Acquisition and other related costs of $1, and Interest expense of $2, offset by Other expense (income) of $1.

Free cash flow - is derived from cash flow provided by operating activities, net of additions to property and equipment and purchases of other investments. Free cash flow is a metric that our management and board of directors use to evaluate the cash generated by our operations, net of capital expenditures and other investment activity. In a capital intensive business, with significant investments in satellites, we look at our operating cash flow, net of these investing cash outflows, to determine cash available for future subscriber acquisition and capital expenditures, to repurchase or retire debt, to acquire other companies and to evaluate our ability to return capital to stockholders. We exclude from free cash flow certain items that do not relate to the on-going performance of our business, such as cash flows related to acquisitions, strategic and short-term investments, and net loan activity with related parties and other equity investees. We believe free cash flow is an indicator of the long-term financial stability of our business. Free cash flow, which is reconciled to "Net cash provided by operating activities," is a Non-GAAP financial measure. This measure can be calculated by deducting amounts under the captions "Additions to property and equipment" and deducting or adding Restricted and other investment activity from "Net cash provided by operating activities" from the unaudited consolidated statements of cash flows. Free cash flow should be used in conjunction with other GAAP financial performance measures and may not be comparable to free cash flow measures presented by other companies. Free cash flow should be viewed as a supplemental measure rather than an alternative measure of cash flows from operating activities, as determined in accordance with GAAP. Free cash flow is limited and does not represent remaining cash flows available for discretionary expenditures due to the fact that the measure does not deduct the payments required for debt maturities. We believe free cash flow provides useful supplemental information to investors regarding our current cash flow, along with other GAAP measures (such as cash flows from operating and investing activities), to determine our financial condition, and to compare our operating performance to other communications, entertainment and media companies. Free cash flow is calculated as follows:

	For the Three Months Ended June 30,		For the Six Months Ended June 30,	
	2020	2019	2020	2019
Cash Flow information				
Net cash provided by operating activities	$ 591	$ 545	$ 1,007	$ 941
Net cash (used in) provided by investing activities	$ (120)	$ (75)	$ (265)	$ 209
Net cash used in financing activities	$ 1,258	$ (317)	$ 919	$ (989)
Free Cash Flow				
Net cash provided by operating activities	$ 591	$ 545	$ 1,007	$ 941
Additions to property and equipment	(87)	(70)	(149)	(160)
Purchases of other investments	(1)	(1)	(7)	(7)
Free cash flow	$ 503	$ 474	$ 851	$ 774

ARPU - Sirius XM ARPU is derived from total earned subscriber revenue (excluding revenue associated with our connected vehicle services) and advertising revenue, divided by the number of months in the period, divided by the daily weighted average number of subscribers for the period. Pandora ARPU is defined as average monthly subscriber revenue per paid subscriber on our Pandora subscription services.

Subscriber acquisition cost, per installation - or SAC, per installation, is derived from subscriber acquisition costs and margins from the sale of radios and accessories (excluding connected vehicle services), divided by the number of satellite radio installations in new vehicles and shipments of aftermarket radios for the period. SAC, per installation, is calculated as follows:

	For the Three Months Ended June 30,		For the Six Months Ended June 30,	
	2020	2019	2020	2019
Subscriber acquisition costs, excluding connected vehicle services	$ 48	$ 104	$ 147	$ 212
Less: margin from sales of radios and accessories, excluding connected vehicle services	(21)	(34)	(58)	(68)
	$ 27	$ 70	$ 89	$ 144
Installations	1,320	3,078	4,403	6,155
SAC, per installation [(a)]	$ 20.14	$ 22.74	$ 20.14	$ 23.40

(a) Amounts may not recalculate due to rounding.

Ad supported listener hours - is based on the total bytes served over our Pandora advertising supported platforms for each track that is requested and served from our Pandora servers, as measured by our internal analytics systems, whether or not a listener listens to the entire track. For non-music content such as podcasts, episodes are divided into approximately track-length parts, which are treated as tracks. To the extent that third-party measurements of advertising hours are not calculated using a similar server-based approach, the third-party measurements may differ from our measurements.

RPM - is calculated by dividing advertising revenue, excluding AdsWizz and other off-platform revenue, by the number of thousands of listener hours on our Pandora advertising-based service.

LPM - is calculated by dividing advertising licensing costs by the number of thousands of listener hours on our Pandora advertising-based service.

LPU - is calculated by dividing subscriber licensing costs by the number of paid subscribers on our Pandora subscription services.

ITEM 3. QUANTITATIVE AND QUALITATIVE DISCLOSURE ABOUT MARKET RISKS

As of June 30, 2020, we did not hold or issue any free-standing derivatives. We hold investments in money market funds and certificates of deposit. These securities are consistent with the objectives contained within our investment policy. The basic objectives of our investment policy are the preservation of capital, maintaining sufficient liquidity to meet operating requirements and maximizing yield. As of June 30, 2020, we also held the following material investment:

- In connection with the recapitalization of Sirius XM Canada, on May 25, 2017, we loaned Sirius XM Canada $131 million. The loan is denominated in Canadian dollars and is subject to changes in foreign currency. It is considered a long-term investment with any unrealized gains or losses reported within Accumulated other comprehensive (loss) income. Such loan has a term of fifteen years, bears interest at a rate of 7.62% per annum and includes customary covenants and events of default, including an event of default relating to Sirius XM Canada's failure to maintain specified leverage ratios. The carrying value of the loan as of June 30, 2020 was $122.0 million and approximates its fair value as of such date. Had the Canadian to U.S. dollar exchange rate been 10% lower as of June 30, 2020, the value of this loan would have been approximately $12 million lower.

Our debt includes fixed rate instruments and the fair market value of our debt is sensitive to changes in interest rates. Sirius XM's borrowings under the Credit Facility carry a variable interest rate based on London Inter-bank Offered Rate ("LIBOR") plus an applicable rate based on its debt to operating cash flow ratio. LIBOR is the subject of national, international and other regulatory guidance and proposals for reform. On July 27, 2017, the United Kingdom's Financial Conduct Authority, which regulates LIBOR, announced that it intends to phase out LIBOR by the end of 2021. It is unclear if at that time LIBOR will cease to exist or if new methods of calculating LIBOR will be established such that it will continue to exist after 2021. The consequences of these developments cannot be entirely predicted, but could include an increase in the cost of our borrowings under the Credit Facility.

ITEM 4. CONTROLS AND PROCEDURES

Controls and Procedures

We maintain a set of disclosure controls and procedures designed to ensure that information required to be disclosed in reports that we file or submit under the Exchange Act of 1934, is recorded, processed, summarized and reported within the time periods specified in SEC rules and forms, and that such information is accumulated and communicated to our management, including our principal executive officer and principal financial officer, as appropriate, to allow timely decisions regarding required disclosures. The design of any disclosure controls and procedures is based in part upon certain assumptions about the likelihood of future events, and there can be no assurance that any design will succeed in achieving its stated goals under all potential future conditions. Any controls and procedures, no matter how well designed and operated, can provide only reasonable, not absolute, assurance of achieving the desired control objectives.

As of June 30, 2020, an evaluation was performed under the supervision and with the participation of our management, including James E. Meyer, our Chief Executive Officer, and David J. Frear, our Senior Executive Vice President and Chief Financial Officer, of the effectiveness of the design and operation of our disclosure controls and procedures (as that term is defined in Rule 13a-15(e) and 15d-15(e) under the Securities Exchange Act of 1934). Based on that evaluation, our management, including our Chief Executive Officer and our Chief Financial Officer, concluded that our disclosure controls and procedures were effective as of June 30, 2020.

Changes in Internal Control Over Financial Reporting

There has been no change in our internal control over financial reporting (as that term is defined in Rule 13a-15(f) and 15d-15(f) under the Securities Exchange Act of 1934) during the quarter ended June 30, 2020 that has materially affected, or is reasonably likely to materially affect, our internal control over financial reporting.

PART II — OTHER INFORMATION

ITEM 1. LEGAL PROCEEDINGS

For a discussion of our "Legal Proceedings," refer to Note 16 to our unaudited consolidated financial statements in Part I, Item I, of this Quarterly Report on Form 10-Q.

ITEM 1A. RISK FACTORS

In connection with the COVID-19 pandemic we supplemented the risk factors previously disclosed in response to Part I, "Item 1A. Risk Factors," of our Annual Report on Form 10-K for the year ended December 31, 2019 to reflect the uncertainties that we believe the COVID-19 pandemic and its related economic impact has created for our business. The additional risk factor appears in Part II, "Item 1A Risk Factors," in our Quarterly Report on Form 10-Q for the three months ended March 31, 2020.

ITEM 2. UNREGISTERED SALES OF EQUITY SECURITIES AND USE OF PROCEEDS

On July 14, 2020, our board of directors approved an additional $2.0 billion for repurchase of our common stock. The new approval increases the amount of common stock that we have been authorized to repurchase to an aggregate of $16.0 billion. Our board of directors did not establish an end date for this stock repurchase program. Shares of common stock may be purchased from time to time on the open market, pursuant to pre-set trading plans meeting the requirements of Rule 10b5-1 under the Exchange Act, in privately negotiated transactions, including transactions with Liberty Media and its affiliates, or otherwise. As of June 30, 2020, our cumulative repurchases since December 2012 under our stock repurchase program totaled 3.1 billion shares for $13.2 billion, and $0.8 billion remained available under our existing $14.0 billion stock repurchase program. The size and timing of these purchases will be based on a number of factors, including price and business and market conditions.

The following table provides information about our purchases of equity securities registered pursuant to Section 12 of the Exchange Act, as amended, during the quarter ended June 30, 2020:

Period	Total Number of Shares Purchased	Average Price Paid Per Share (a)	Total Number of Shares Purchased as Part of Publicly Announced Plans or Programs	Approximate Dollar Value of Shares that May Yet Be Purchased Under the Plans or Programs (a)
April 1, 2020 - April 30, 2020	1,250,000	$ 5.92	1,250,000	$ 916,297,840
May 1, 2020 - May 31, 2020	17,250,000	$ 5.50	17,250,000	$ 821,435,365
June 1, 2020 - June 30, 2020	10,631,524	$ 5.91	10,631,524	$ 758,599,782
Total	29,131,524	$ 5.67	29,131,524	

(a) These amounts include fees and commissions associated with the shares repurchased.

ITEM 3. DEFAULTS UPON SENIOR SECURITIES

Not applicable.

ITEM 4. MINE SAFETY DISCLOSURES

Not applicable.

ITEM 5. OTHER INFORMATION

None.

ITEM 6. EXHIBITS

See Exhibit Index attached hereto, which is incorporated herein by reference.

EXHIBIT INDEX

Exhibit	Description
4.1	Indenture, dated as of June 11, 2020, relating to the 4.125% Senior Notes due 2030, among Sirius XM Radio Inc., the guarantors named therein and U.S. Bank National Association, as trustee, including the form of 4.125% Senior Notes due 2030 (incorporated by reference to Exhibit 4.1 to Sirius XM Holdings Inc.'s Current Report on Form 8-K dated June 11, 2020 (File No. 001-34295)).
31.1	Certificate of James E. Meyer, Chief Executive Officer, pursuant to Section 302 of the Sarbanes-Oxley Act of 2002 (filed herewith).
31.2	Certificate of David J. Frear, Senior Executive Vice President and Chief Financial Officer, pursuant to Section 302 of the Sarbanes-Oxley Act of 2002 (filed herewith).
32.1	Certificate of James E. Meyer, Chief Executive Officer, pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002 (furnished herewith).
32.2	Certificate of David J. Frear, Senior Executive Vice President and Chief Financial Officer, pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002 (furnished herewith).
101.1	The following financial information from our Quarterly Report on Form 10-Q for the quarter ended June 30, 2020 formatted in Inline eXtensible Business Reporting Language (Inline XBRL): (i) Consolidated Statements of Comprehensive Income (Unaudited) for the three and six months ended June 30, 2020 and 2019; (ii) Consolidated Balance Sheets as of June 30, 2020 (Unaudited) and December 31, 2019; (iii) Consolidated Statements of Stockholders' Equity (Deficit) for the three and six months ended June 30, 2020 and 2019 (Unaudited); (iv) Consolidated Statements of Cash Flows (Unaudited) for the six months ended June 30, 2020 and 2019; and (v) Notes to Consolidated Financial Statements (Unaudited).
104	The cover page from the Company's Quarterly Report on Form 10-Q for the quarter ended June 30, 2020, formatted in Inline XBRL.

The agreements and other documents filed as exhibits to this report are not intended to provide factual information or other disclosure other than with respect to the terms of the agreements or other documents themselves, and you should not rely on them other than for that purpose. In particular, any representations and warranties made by us in these agreements or other documents were made solely within the specific context of the relevant agreement or document as of the date they were made and may not describe the actual state of affairs for any other purpose or at any other time.

SIGNATURES

Pursuant to the requirements of Section 13 or 15(d) of the Securities Exchange Act of 1934, the registrant has duly caused this report to be signed on its behalf by the undersigned, thereunto duly authorized on this 30th day of July 2020.

SIRIUS XM HOLDINGS INC.

By: /s/ DAVID J. FREAR

David J. Frear
Senior Executive Vice President and
Chief Financial Officer
(Principal Financial Officer and Authorized Officer)

COEX-
8.32

Exhibit 31.1

CERTIFICATION OF CHIEF EXECUTIVE OFFICER

I, James E. Meyer, certify that:

1. I have reviewed this Quarterly Report on Form 10-Q for the quarterly period ended June 30, 2020 of Sirius XM Holdings Inc.;

2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;

3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this report;

4. The registrant's other certifying officer and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the registrant and have:

   (a) Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;

   (b) Designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;

   (c) Evaluated the effectiveness of the registrant's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and

   (d) Disclosed in this report any change in the registrant's internal control over financial reporting that occurred during the registrant's most recent fiscal quarter (the registrant's fourth fiscal quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, the registrant's internal control over financial reporting; and

5. The registrant's other certifying officer and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant's auditors and the audit committee of the registrant's board of directors (or persons performing the equivalent functions):

   (a) all significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant's ability to record, process, summarize and report financial information; and

   (b) any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal control over financial reporting.

By: /s/ James E. Meyer

James E. Meyer
Chief Executive Officer
(Principal Executive Officer)

July 30, 2020

COEX-
8.32

Exhibit 31.2

CERTIFICATION OF CHIEF FINANCIAL OFFICER

I, David J. Frear, certify that:

1. I have reviewed this Quarterly Report on Form 10-Q for the quarterly period ended June 30, 2020 of Sirius XM Holdings Inc.;

2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;

3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this report;

4. The registrant's other certifying officer and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the registrant and have:

   (a) Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;

   (b) Designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;

   (c) Evaluated the effectiveness of the registrant's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and

   (d) Disclosed in this report any change in the registrant's internal control over financial reporting that occurred during the registrant's most recent fiscal quarter (the registrant's fourth fiscal quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, the registrant's internal control over financial reporting; and

5. The registrant's other certifying officer and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant's auditors and the audit committee of the registrant's board of directors (or persons performing the equivalent functions):

   (a) all significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant's ability to record, process, summarize and report financial information; and

   (b) any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal control over financial reporting.

By: /s/ David J. Frear

David J. Frear
Senior Executive Vice President and
Chief Financial Officer
(Principal Financial Officer)

July 30, 2020

COEX-
8.32

Exhibit 32.1

CERTIFICATION PURSUANT TO
18 U.S.C. SECTION 1350,
AS ADOPTED PURSUANT TO
SECTION 906 OF THE SARBANES-OXLEY
ACT OF 2002

In connection with the Quarterly Report of Sirius XM Holdings Inc. (the "Company") on Form 10-Q for the quarterly period ended June 30, 2020 as filed with the Securities and Exchange Commission on the date hereof (the "Report"), I, James E. Meyer, Chief Executive Officer of the Company, certify, pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002, that:

(1) The Report fully complies with the requirements of Section 13(a) or 15(d) of the Securities Exchange Act of 1934; and

(2) The information contained in the Report fairly presents, in all material respects, the financial condition and results of operations of the Company.

By: /s/ JAMES E. MEYER

James E. Meyer
Chief Executive Officer
(Principal Executive Officer)

July 30, 2020

A signed original of this written statement required by Section 906, or other document authenticating, acknowledging, or otherwise adopting the signature that appears in typed form within the electronic version of this written statement required by Section 906, has been provided to the Company and will be retained by the Company and furnished to the Securities and Exchange Commission or its staff upon request.

COEX-
8.32

Exhibit 32.2

CERTIFICATION PURSUANT TO
18 U.S.C. SECTION 1350,
AS ADOPTED PURSUANT TO
SECTION 906 OF THE SARBANES-OXLEY
ACT OF 2002

In connection with the Quarterly Report of Sirius XM Holdings Inc. (the "Company") on Form 10-Q for the quarterly period ended June 30, 2020 as filed with the Securities and Exchange Commission on the date hereof (the "Report"), I, David J. Frear, Senior Executive Vice President and Chief Financial Officer of the Company, certify, pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002, that:

(1) The Report fully complies with the requirements of Section 13(a) or 15(d) of the Securities Exchange Act of 1934; and

(2) The information contained in the Report fairly presents, in all material respects, the financial condition and results of operations of the Company.

By: /s/ DAVID J. FREAR

David J. Frear
Senior Executive Vice President and
Chief Financial Officer
(Principal Financial Officer)

July 30, 2020

A signed original of this written statement required by Section 906, or other document authenticating, acknowledging, or otherwise adopting the signature that appears in typed form within the electronic version of this written statement required by Section 906, has been provided to the Company and will be retained by the Company and furnished to the Securities and Exchange Commission or its staff upon request.

COEX-
8.32

UNITED STATES
SECURITIES AND EXCHANGE COMMISSION
WASHINGTON, D.C. 20549

FORM 10-K

☑ **ANNUAL REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934**

FOR THE FISCAL YEAR ENDED DECEMBER 31, 2020
OR

☐ **TRANSITION REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934**

FOR THE TRANSITION PERIOD FROM _____ TO _____
COMMISSION FILE NUMBER 001-34295

SIRIUS XM HOLDINGS INC.

(Exact name of registrant as specified in its charter)

Delaware	**38-3916511**
(State or other jurisdiction of incorporation or organization)	*(I.R.S. Employer Identification No.)*

1221 Avenue of the Americas, 35th Floor, New York, NY
(Address of Principal Executive Offices)
10020
(Zip Code)

Registrant's telephone number, including area code: (212) 584-5100
Securities registered pursuant to Section 12(b) of the Act:

Title of each class	Trading Symbol(s)	Name of exchange on which registered
Common stock, $0.001 par value	**SIRI**	**NASDAQ Global Select Market**

Securities registered pursuant to Section 12(g) of the Act: None.

Indicate by check mark if the registrant is a well-known seasoned issuer, as defined in Rule 405 of the Securities Act. Yes ☑ No ☐

Indicate by check mark if the registrant is not required to file reports pursuant to Section 13 or 15(d) of the Act. Yes ☐ No ☑

Indicate by check mark whether the registrant (1) has filed all reports required to be filed by Section 13 or 15(d) of the Securities Exchange Act of 1934 during the preceding 12 months (or for such shorter period that the registrant was required to file such reports) and (2) has been subject to such filing requirements for the past 90 days. Yes ☑ No ☐

Indicate by check mark whether the registrant has submitted electronically every Interactive Data File required to be submitted pursuant to Rule 405 of Regulation S-T during the preceding 12 months (or for such shorter period that the registrant was required to submit such files). Yes ☑ No ☐

Indicate by check mark whether the registrant is a large accelerated filer, an accelerated filer, a non-accelerated filer, or a smaller reporting company or an emerging growth company. See the definitions of "large accelerated filer," "accelerated filer", "smaller reporting company" and "emerging growth company" in Rule 12b-2 of the Exchange Act.:

Large accelerated filer	☑	Accelerated filer	☐	Non-accelerated filer	☐
Smaller reporting company	☐	Emerging growth company	☐		

If an emerging growth company, indicate by check mark if the registrant has elected not to use the extended transition period for complying with any new or revised financial accounting standards provided pursuant to Section 13(a) of the Exchange Act. ☐

Indicate by check mark whether the registrant has filed a report on and attestation to its management's assessment of the effectiveness of its internal control over financial reporting under Section 404(b) of the Sarbanes-Oxley Act (15 U.S.C. 7262(b)) by the registered public accounting firm that prepared or issued its audit report. ☑

Indicate by check mark whether the registrant is a shell company (as defined in Rule 12b-2 of the Act). Yes ☐ No ☑

The aggregate market value of the registrant's common stock held by non-affiliates as of June 30, 2020 was $6,902,732,943. All executive officers and directors of the registrant have been deemed, solely for the purpose of the foregoing calculation, to be "affiliates" of the registrant.

The number of shares of the registrant's common stock outstanding as of January 29, 2021 was 4,139,978,947.

DOCUMENTS INCORPORATED BY REFERENCE

Information included in our definitive proxy statement for our 2021 annual meeting of stockholders scheduled to be held on Thursday, June 3, 2021 is incorporated by reference into Items 10, 11, 12, 13 and 14 of Part III of this report.

SIRIUS XM HOLDINGS INC. AND SUBSIDIARIES
2020 FORM 10-K ANNUAL REPORT
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PART I

ITEM 1. *BUSINESS*

This Annual Report on Form 10-K presents information for Sirius XM Holdings Inc. ("Holdings"), a Delaware corporation. The terms "Holdings," "we," "us," "our," and "our company" as used herein and unless otherwise stated or indicated by context, refer to Sirius XM Holdings Inc. and its subsidiaries. "Sirius XM" refers to our wholly owned subsidiary Sirius XM Radio Inc. and its subsidiaries other than Pandora. "Pandora" refers to Sirius XM's wholly owned subsidiary Pandora Media, LLC and its subsidiaries.

Sirius XM Holdings Inc.

Holdings was incorporated in the State of Delaware on May 21, 2013. Holdings has no operations independent of its wholly owned subsidiaries, Sirius XM and Pandora.

Relationship with Liberty Media

As of December 31, 2020, Liberty Media Corporation ("Liberty Media") beneficially owned, directly and indirectly, approximately 76% of the outstanding shares of Holdings' common stock. Liberty Media owns interests in a range of media, communications and entertainment businesses.

Our Businesses

We operate two complementary audio entertainment businesses - our Sirius XM business and our Pandora business. We continue to expand the range of choices for our listeners – both in terms of compelling content and the array of ways in which it can be consumed. There are approximately 135 million vehicles in operation with Sirius XM radios, and the proliferation of smart speakers and other connected devices has increased the range of options consumers have for engaging with and consuming our content.

We also are focused on rapidly growing content categories, such as podcasting. A podcast is a digital audio recording in spoken-word format, usually part of a themed series, which is downloaded or streamed most often to mobile devices. In 2020, an estimated 104 million Americans listened to a podcast at least monthly.

Sirius XM

Our Sirius XM business features music, sports, entertainment, comedy, talk, news, traffic and weather channels and other content, as well as podcasts and infotainment services, in the United States on a subscription fee basis. Sirius XM's premier content bundles include live, curated and certain exclusive and on demand programming. The Sirius XM service is distributed through our two proprietary satellite radio systems and streamed via applications for mobile devices, home devices and other consumer electronic equipment. Satellite radios are primarily distributed through automakers, retailers and our website. Our Sirius XM service is also available through our user interface which we call "360L," that combines our satellite and streaming services into a single, cohesive in-vehicle entertainment experience.

The primary source of revenue from our Sirius XM business is subscription fees, with most of our customers subscribing to monthly, quarterly, semi-annual or annual plans. We also derive revenue from advertising on select non-music channels, direct sales of our satellite radios and accessories, and other ancillary services. As of December 31, 2020, our Sirius XM business had approximately 34.7 million subscribers.

In addition to our audio entertainment businesses, we provide connected vehicle services to several automakers. These services are designed to enhance the safety, security and driving experience of consumers. We also offer a suite of data services that includes graphical weather, fuel prices, sports schedules and scores and movie listings, a traffic information service that includes information as to road closings, traffic flow and incident data to consumers with compatible in-vehicle navigation systems, and real-time weather services in vehicles, boats and planes.

Sirius XM also holds a 70% equity interest and 33% voting interest in Sirius XM Canada Holdings Inc. ("Sirius XM Canada").

Pandora

Our Pandora business operates a music, comedy and podcast streaming platform, offering a personalized experience for each listener wherever and whenever they want to listen, whether through mobile devices, car speakers or connected devices. Pandora enables listeners to create personalized stations and playlists, discover new content, hear artist- and expert-curated playlists, podcasts and select Sirius XM content as well as search and play songs and albums on-demand. Pandora is available as (1) an ad-supported radio service, (2) a radio subscription service (Pandora Plus) and (3) an on-demand subscription service (Pandora Premium). As of December 31, 2020, Pandora had approximately 6.3 million subscribers.

The majority of revenue from our Pandora business is generated from advertising on our Pandora ad-supported radio service. We also derive subscription revenue from our Pandora Plus and Pandora Premium subscribers.

Our Pandora business also sells advertising on audio platforms and in podcasts unaffiliated with us. Pandora has an arrangement with SoundCloud Holdings, LLC ("Soundcloud") to be its exclusive US ad sales representative. Through this arrangement Pandora is able to offer advertisers the ability to execute campaigns in the US across the Pandora and SoundCloud listening platforms. Pandora also has arrangements to serve as the ad sales representative for podcasts produced by certain third parties. In addition, through AdsWizz Inc., Pandora provides a comprehensive digital audio and programmatic advertising technology platform, which connects audio publishers and advertisers with a variety of ad insertion, campaign trafficking, yield optimization, programmatic buying, marketplace and podcast monetization solutions.

In June 2020, Sirius XM acquired Audios Ventures Inc. (which does business as Simplecast) ("Simplecast"), a podcast management and analytics platform. Simplecast complements AdsWizz's advertising technology platform, allowing the company to offer podcasters a solution for management, hosting, analytics and advertising sales. In October 2020, Sirius XM also acquired Stitcher and its Midroll advertising network from the E.W Scripps Company. Stitcher is a leader in production, distribution, and ad sales in the podcast area.

Our Sirius XM Business

Programming

We offer a dynamic programming lineup of commercial-free music plus sports, entertainment, comedy, talk, and news, including:

- an extensive selection of music genres, ranging from rock, pop and hip-hop to country, dance, jazz, Latin and classical;
- live play-by-play sports from major leagues and colleges;
- a multitude of talk, entertainment and comedy channels for a variety of audiences;
- a wide range of national, international and financial news; and
- exclusive limited run channels.

We believe that our diverse programming, including our lineup of exclusive content, is a significant differentiator from terrestrial radio and other audio entertainment providers. We make changes to our programming lineup from time to time as we strive to attract new subscribers and offer content which appeals to a broad range of audiences and to our existing subscribers. The channel lineups for our services are available at siriusxm.com.

Streaming Service

Our streaming service includes a variety of music and non-music channels, including channels that are not available on our satellite radio service, and podcasts. We offer applications to allow consumers to access our streaming service on smartphones, tablets, computers, home devices and other consumer electronic equipment.

Our streaming product currently features: the broad range of music, sports, talk, news and entertainment channels available on satellite radio; access to over 100 additional music channels, which we refer to as Xtra Music Channels; and video content, including video from The Howard Stern Show and performances and interviews from Sirius XM's archives, including in-studio performances and behind-the-scenes moments with artists, personalities and newsmakers.

Our Sirius XM service also includes a library of podcasts, some of which are exclusive to our service, and other on demand content. Our streaming service offers subscribers the ability to choose their favorite podcast episodes from a catalog of content as well as select material from a growing library of podcasts we are assembling.

Our streaming service is included as part of the price of the vast majority of Sirius XM's packages, including the Select and All Access packages. Our Personalized Stations Powered by Pandora feature, which allows subscribers to create their own customized commercial-free music stations within the Sirius XM app, is offered to consumers as part of the price of Sirius XM's All Access package. We also offer our streaming service in several standalone packages, which do not include a satellite radio subscription. These packages, which include the Premier Streaming Plan, Essentials Plan, Student Plan and Military Plan, are available to consumers at various prices and include a variety of content.

We have entered into agreements with third parties designed to increase the distribution and ease of use of our streaming service, including through connected devices. We also have arrangements with various services and consumer electronics manufactures to include the Sirius XM streaming functionality with their service and devices.

360L

Our next generation automotive platform, which we call "360L," combines our satellite and streaming services into a single, cohesive in-vehicle entertainment experience. We have agreements with many automakers to deploy our 360L interface in a variety of vehicles. We believe that 360L will be included in a majority of vehicles that include Sirius XM functionality in the future.

360L allows us to take advantage of advanced in-dash infotainment systems. 360L is intended to leverage the ubiquitous signal coverage and low delivery costs of our satellite infrastructure with the two-way communication capability of a wireless streaming service to provide consumers seamless access to our content, including our live channels, on demand service, podcasts and even more personalized music services. The wireless streaming connection included in 360L enables enhanced search and recommendations functions, making discovery of our content in the vehicle easier. In certain cases, 360L also allows consumers to manage aspects of their subscriptions directly through their vehicles' equipment and provides us data to better enable us to understand how our subscribers use our service and how we can more effectively market our service to consumers.

Distribution of Radios

New Vehicles

We distribute satellite radios through the sale and lease of new vehicles. We have agreements with every major automaker to offer satellite radios in their vehicles. Satellite radios are available as a factory-installed feature in substantially all vehicle makes sold in the United States.

Most automakers include a subscription to our service in the sale or lease of their new vehicles. In certain cases, we receive subscription payments from automakers in advance of the activation of our service. We share with certain automakers a portion of the revenues we derive from subscribers using vehicles equipped to receive our service. We also reimburse various automakers for certain costs associated with the satellite radios installed in new vehicles, including in certain cases hardware costs, engineering expenses and promotional and advertising expenses.

Previously Owned Vehicles

We acquire subscribers through the sale and lease of previously owned vehicles with factory-installed satellite radios. We have entered into agreements with many automakers to include a subscription to our service in the sale or lease of vehicles which include satellite radios sold through their certified pre-owned programs. We also work directly with franchise and independent dealers on programs for non-certified used vehicles.

We have developed systems and methods to identify purchasers and lessees of previously owned vehicles which include satellite radios and have established marketing plans to promote our services to these potential subscribers.

Retail

We sell satellite radios directly to consumers through our website. Satellite radios are also marketed and distributed through national, regional and online retailers, such as Amazon.com.

Our Satellite Radio Systems

Our satellite radio systems are designed to provide clear reception in most areas of the continental United States despite variations in terrain, buildings and other obstructions. We continually monitor our infrastructure and regularly evaluate improvements in technology.

Our satellite radio systems have three principal components:

- satellites, terrestrial repeaters and other satellite facilities;
- studios; and
- radios.

Satellites, Terrestrial Repeaters and Other Satellite Facilities

Satellites. We provide our service through a fleet of orbiting geostationary satellites. Two of these satellites, FM-5 and FM-6, transmit our service on frequencies originally licensed by the FCC to Sirius, and two of these satellites, XM-3 and XM-4, transmit our service on frequencies originally licensed by the FCC to XM. Our XM-5 satellite serves as a spare for both the XM and Sirius systems.

We have entered into agreements for the design, construction and launch of two additional satellites, SXM-7 and SXM-8. On December 13, 2020, SXM-7 was successfully launched. In-orbit testing of SXM-7 began on January 4, 2021. During in-orbit testing of SXM-7, events occurred which have caused failures of certain SXM-7 payload units. An evaluation of SXM-7 is underway. The full extent of the damage to SXM-7 is not yet known.

We do not expect our satellite radio service to be impacted by these adverse SXM-7 events. Our XM-3 and XM-4 satellites continue to operate and are expected to support our satellite radio service for several years. In addition, our XM-5 satellite remains available as an in-orbit spare. Construction of our SXM-8 satellite is underway and that satellite is expected to be launched into a geostationary orbit in 2021.

Satellite Insurance. We have procured insurance for SXM-7 and SXM-8 to cover the risks associated with each satellite's launch and first year of in-orbit operation. The aggregate coverage under those insurance policies with respect to SXM-7 is $225 million. We have notified the underwriters of these policies of a potential claim with respect to SXM-7. We do not have insurance policies covering our other in-orbit satellites as we consider the premium costs to be uneconomical relative to the risk of satellite failure.

Terrestrial Repeaters. In some areas with high concentrations of tall buildings, such as urban centers, signals from our satellites may be blocked and reception of satellite signals can be adversely affected. In other areas with a high density of next generation wireless systems our service may experience interference. In many of these areas, we have deployed terrestrial repeaters to supplement and enhance our signal coverage and, in many other areas, we may deploy additional repeaters to mitigate interference. We operate over 1,000 terrestrial repeaters across the United States as part of our systems.

Other Satellite Facilities. We control and communicate with our satellites from facilities in North America. Our satellites are monitored, tracked and controlled by a third party satellite operator.

Studios

Our programming originates from studios in New York City, Los Angeles and Washington D.C. and, to a lesser extent, from smaller studios in Nashville and a variety of venues across the country. Our corporate headquarters is in New York City. We provide equipment to artists and hosts to enable remote creation and transmission of programming.

Radios

We do not manufacture radios. We have authorized manufacturers and distributors to produce and distribute radios, and have licensed our technology to various electronics manufacturers to develop, manufacture and distribute radios under certain brands. We do manage various aspects of the production of satellite radios. To facilitate the sale of radios, we may subsidize a portion of the radio manufacturing costs to reduce the hardware price to consumers.

Connected Vehicle Services

We provide connected vehicle services to several automakers. Our connected vehicle services are designed to enhance the safety, security and driving experience for vehicle operators while providing marketing and operational benefits to automakers and their dealers. We offer a portfolio of location-based services through two-way wireless connectivity, including safety, security, convenience, maintenance and data services, remote vehicles diagnostics, and stolen or parked vehicle locator services. Subscribers to our connected vehicle services are not included in our subscriber count or subscriber-based operating metrics.

In May 2020, we terminated the Automatic Labs Inc. ("Automatic") service, which was part of our connected services business. Automatic operated a service for consumers and auto dealers and offered an install-it-yourself adapter and mobile application, which transformed vehicles into connected vehicles.

Other Services

Commercial Accounts. Our programming is available for commercial establishments. Commercial subscription accounts are available through providers of in-store entertainment solutions and directly from us.

Satellite Television Service. Certain of our music channels are offered as part of select programming packages on the DISH Network satellite television service.

Travel Link. We offer Travel Link, a suite of data services that includes graphical weather, fuel prices, sports schedules and scores and movie listings.

Real-Time Traffic Services. We offer services that provide graphic information as to road closings, traffic flow and incident data to consumers with compatible in-vehicle navigation systems.

Real-Time Weather Services. We offer several real-time weather services in vehicles, boats and planes.

Commercial subscribers are included in our subscriber count. Subscribers to the DISH Network satellite television service are not included in our subscriber count and subscribers to our Travel Link, real-time traffic services and real-time weather services are not included in our subscriber count, unless the applicable service is purchased by the subscriber separately and not as part of a radio subscription to our service.

Sirius XM Canada

Sirius XM holds a 70% equity interest and 33% voting interest in Sirius XM Canada, with the remainder of Sirius XM Canada's voting and equity interests held by two shareholders.

Sirius XM has entered into a Services Agreement and an Advisory Services Agreement with Sirius XM Canada. Each agreement has a thirty year term. Pursuant to the Services Agreement, Sirius XM Canada pays Sirius XM 25% of its gross revenues on a monthly basis and pursuant to the Advisory Services Agreement, Sirius XM Canada pays Sirius XM 5% of its gross revenues on a monthly basis.

As of December 31, 2020, Sirius XM Canada had approximately 2.6 million subscribers. Sirius XM Canada's subscribers are not included in our subscriber count or subscriber-based operating metrics.

Our Pandora Business

Pandora Media, LLC, which owns and operates our Pandora business, is a wholly owned subsidiary of Sirius XM.

Streaming Radio and On-Demand Music Services

Our Pandora business offers a personalized audio entertainment platform for each listener. Users are able to create personalized stations and playlists and search and play songs and albums on-demand. The Pandora service utilizes content programming algorithms, data collected from listeners, and attributes of the music managed in the Music Genome Project to predict user music preferences, play content suited to the tastes of each listener, and introduce each listener to music consistent with the consumer's preferences.

The Pandora service is available on iOS and Android mobile devices, web browsers, and other internet connected devices, The Pandora application is free to download and use. Our Pandora service is also available in vehicles in the United States with smartphone connectivity. Certain automakers now provide embedded streaming connectivity that supports and makes available the Pandora service in vehicles without the need for smartphone connectivity. In addition, our Pandora service is integrated into consumer electronic, voice-based devices and smart speakers.

Pandora service is available as an ad-supported radio service, a radio subscription service (Pandora Plus), or an on-demand subscription service (Pandora Premium). Local and national advertisers deliver targeted messages to our Pandora listeners on the ad-supported service.

Ad-Supported Radio Service

Our Pandora business offers an ad-supported radio service which allows listeners to access our catalog of music, comedy, live streams and podcasts through personalized stations. This service is free across all platforms and generates stations specific to each listener. Each listener can personalize his or her stations by adding variety to the content.

Listeners of the ad-supported service are provided with the option to temporarily access on-demand listening, including certain features of the Pandora Premium service. We refer to this temporary access as “Premium Access”.

Subscription Radio Service (Pandora Plus)

Our Pandora business offers Pandora Plus - an ad-free, subscription version of the radio service that includes options for replaying songs, skipping songs, offline listening, and higher quality audio on supported devices. Content provided to each listener of Pandora Plus is more tailored when the listener interacts more with the platform. Premium Access is also available to Pandora Plus listeners.

On-Demand Subscription Service (Pandora Premium)

Our Pandora business offers Pandora Premium - an on-demand subscription service that combines the radio features of Pandora Plus with an on-demand experience. The on-demand experience provides listeners with the ability to search, play and collect songs and albums, download content for offline listening, build playlists, listen to curated playlists and share playlists on social networks. Listeners can also create partial playlists that Pandora can complete based on the listener’s activity and the Music Genome Project. Listeners through mobile devices have access to customized profiles which identify information specific to each listener such as recent favorites, playlists and thumbs.

Pandora Premium incorporates social networking features including a centralized stream where listeners can view the music that their social connections are experiencing and provide and receive recommendations for songs, albums and playlists. Pandora Premium also includes a “share” feature where consumers can share their stations, songs, albums, podcasts or playlists through social media, messaging applications and email.

Advertising Revenue

Our Pandora business maintains a portfolio of proprietary advertising technologies which include order management, advertising serving and timing, native advertising formats, targeting and reporting. Pandora provides advertisers with the ability to target and connect with listeners based on various criteria including age, gender, geographic location and content preferences. The Pandora business’s primary source of revenue is the sale of audio, display and video advertising for connected device platforms, including computers and mobile devices. Our Pandora business also has agreements to sell the available advertising inventory in the United States for SoundCloud, one of the world’s largest open audio platforms, and other third parties.

Stitcher

Stitcher creates original podcasts and operates content networks that each target a specific genre and audience. Stitcher also provides podcast advertising services that generate revenue for approximately 200 shows and offers a mobile app listening platform where consumers can stream the latest in news, sports, talk, and entertainment on demand.

Stitcher earns revenue by distributing advertising on specific podcasts created by third parties, including placement based on an advertiser’s desired target audience, and from the sale of advertising on its owned podcasts and podcasts offered

within the Stitcher app. Stitcher creates and distributes original podcasts through platforms such as its Stitcher app and the iPhone podcast app.

Stitcher also earns subscription revenue from its Stitcher Premium subscription service. Users pay a monthly or annual fee for access on Stitcher Premium to premium content and ad-free archived podcast episodes.

AdsWizz

Through its AdsWizz subsidiary, our Pandora business is a leader in digital audio advertising technology. AdsWizz operates a digital audio advertising market with an end-to-end technology platform, including a digital audio software suite of solutions that connect audio publishers to the advertising community. AdsWizz offers a range of products -- from dynamic ad insertion to advanced programmatic platforms to innovative new audio formats. AdsWizz's advertising technology also includes ad campaign monitoring tools and other innovative audio advertising products, such as audio formats that can let consumers trigger an action while listening to an ad as well as other personalization-based technology.

AdsWizz's technology is employed by Pandora in its ad-supported business as well as by third party customers. AdsWizz's third party customers include well-known music platforms, podcasts and broadcasting groups worldwide.

In June 2020, Sirius XM acquired Simplecast, a podcast management and analytics platform that complements AdsWizz's audio advertising product offering.

Competition

We face significant competition for listeners and advertisers in our Sirius XM business and our Pandora business, including from providers of radio and other audio services.

Competition for Subscribers and Listeners

Traditional AM/FM Radio

Our Sirius XM services and Pandora services compete with traditional AM/FM radio. Traditional AM/FM radio has a well-established demand for its services and offers free broadcasts paid for by commercial advertising rather than by subscription fees. Many radio stations offer information programming of a local nature, such as local news and sports. The availability of traditional free AM/FM radio may reduce the likelihood that customers would be willing to pay for our subscription services and, by offering free broadcasts, it may impose limits on what we can charge for our services. Several traditional radio companies own large numbers of radio stations and other media properties, such as podcast networks.

Streaming and On-Demand Competitors

Streaming and on-demand services, including Amazon Prime, Apple Music, Spotify and YouTube, compete with our Sirius XM and Pandora services. Major online providers make high fidelity digital streams available at no cost or, in some cases, for less than the cost of a satellite radio subscription. Certain of these services include advanced functionality, such as personalization and customization and allow the user to access large libraries of content. These services, in some instances, are also offered through devices sold by the service providers including Apple, Google and Amazon. For some consumers, these services may compete with our services, at home, in vehicles, and wherever audio entertainment is consumed.

Advanced In-Dash Infotainment Systems

Nearly all automakers have deployed integrated multimedia systems in dashboards, including Apple CarPlay and Android Auto. These systems combine control of audio entertainment from a variety of sources, including AM/FM/HD radio broadcasts, satellite radio, streaming radio, smartphone applications and stored audio, with navigation and other advanced applications. Streaming radio and other data are typically connected to the system through an Internet-enabled smartphone or wireless modem installed in the vehicle, and the entire system may be controlled by touchscreen or voice recognition. These systems enhance the attractiveness of Internet-based competitors by making such applications more prominent, easier to access, and safer to use in vehicles.

Direct Broadcast Satellite and Cable Audio

A number of providers offer specialized audio services through either direct broadcast satellite or cable audio systems. These services are targeted to fixed locations, mostly in-home, but also include mobile entertainment. The radio service offered by direct broadcast satellite and cable audio is often included as part of a package of digital services with video service, and video customers generally do not pay an additional monthly charge for the audio service. In addition, other

services offered by these providers, such as cable television, on-demand video streaming, and interactive video games compete with our services to the extent they utilize existing or potential users' and listeners' time that could otherwise be allocated to the use of our Sirius XM or Pandora services.

Other Digital Media Services

The audio entertainment marketplace continues to evolve rapidly, with a steady emergence of new media platforms that compete with both our Sirius XM and Pandora services now or that could compete with those services in the future.

Traffic Services

For our Sirius XM business, a number of providers compete with our traffic services. In-dash navigation is threatened by smartphones offering GPS mapping with sophisticated data-based turn navigation.

Connected Vehicle Services

Our Sirius XM connected vehicle services business operates in a highly competitive environment and competes with several providers as well as with products being developed for vehicles by automakers and other third parties. OnStar, a division of General Motors, also offers connected vehicle services in GM vehicles. Wireless devices, such as mobile phones, are also competitors. We compete against other connected vehicle service providers for automaker arrangements on the basis of innovation, service quality and reliability, technical capabilities and system customization, scope of service, industry experience, past performance and price.

Competition for Advertisers

Our competition for advertisers includes large scale online advertising platforms such as Amazon, Facebook and Google; traditional media companies such as television broadcasters and national print outlets; broadcast radio providers; podcast distributors and networks; and companies in the broadcast radio market. We compete against these providers for advertisers on the basis of several factors, including advertisers' overall budgets, perceived return on investment, effectiveness and relevance of our advertising platforms, price, delivery of large volumes or precise types of advertisements to targeted demographics, transactional capabilities and reporting capabilities.

The online advertising marketplace continues to evolve rapidly, particularly with the introduction of new digital advertising technologies and expanding capabilities of larger internet companies.

Government Regulation

General

We are subject to a number of foreign and domestic laws and regulations relating to consumer protection, information security and data protection. There are several States that require specific information security controls to protect certain types of information and specific notifications to consumers in the event of a security breach that compromises certain categories of personal information. Certain of our services are also subject to laws in the United States and abroad pertaining to privacy of user data and other information, including the California Consumer Protection Act and the European General Data Protection Regulation. Our Privacy Policies and customer agreements describe our practices pertaining to the foregoing. We believe we comply with all of our obligations under all applicable laws and regulations.

Our Sirius XM Business

As operators of a privately-owned satellite system, we are regulated by the FCC under the Communications Act of 1934, principally with respect to:

- the licensing of our satellite systems;
- preventing interference with or to other users of radio frequencies; and
- compliance with FCC rules established specifically for U.S. satellites and satellite radio services.

Any assignment or transfer of control of our FCC licenses must be approved by the FCC. The FCC's order approving our merger with XM Satellite Radio Holdings Inc. in July 2008 requires us to comply with certain voluntary commitments we made as part of the FCC merger proceeding. We believe we comply with those commitments.

In 1997, we were the winning bidders for FCC licenses to operate a satellite digital audio radio service and provide other ancillary services. Our FCC licenses for our Sirius satellites expire in 2022 and 2025. Our FCC licenses for our XM satellites expire in 2021, 2022 and 2026. The FCC has also granted us licenses to construct, deploy and operate SXM-7 and SXM-8 as replacement satellites. We anticipate that, absent significant misconduct on our part, the FCC will renew our licenses to permit operation of our satellites for their useful lives, and grant licenses for any replacement satellites.

In some areas, we have installed terrestrial repeaters to supplement our satellite signal coverage. The FCC has established rules governing terrestrial repeaters and has granted us a license through 2027 to operate our repeater network.

In certain cases, we obtain FCC certifications for satellite radios, including satellite radios that include FM modulators. We believe our radios that are in production comply with all applicable FCC rules.

We are required to obtain export licenses or other approvals from the United States government to export certain equipment, services and technical data related to our satellites and their operations. The transfer of such equipment, services and technical data outside the United States or to foreign persons is subject to strict export control and prior approval requirements from the United States government (including prohibitions on the sharing of certain satellite-related goods and services with China).

Changes in law or regulations relating to communications policy or to matters affecting our services could adversely affect our ability to retain our FCC licenses or the manner in which we operate.

Copyrights to Programming

In connection with our businesses, we must enter into royalty arrangements with two sets of rights holders: holders of musical compositions copyrights (that is, the music and lyrics) and holders of sound recordings copyrights (that is, the actual recording of a work). Our Sirius XM business and our Pandora business use both statutory and direct music licenses as part of their businesses. We license varying rights - such as performance and mechanical rights - for use in our Sirius XM and Pandora businesses based on the various radio and interactive services they offer. Set forth below is a brief overview of the music composition and sound recording licenses employed by our Sirius XM and Pandora businesses. These music licensing arrangements are complex and the description below is only a summary of these complicated licensing schemes.

Musical Compositions: Performance Rights and Mechanical Rights

The holders of performance rights in musical compositions, generally songwriters and music publishers, are represented by performing rights organizations such as the American Society of Composers, Authors and Publishers ("ASCAP"), Broadcast Music, Inc. ("BMI"), SESAC, Inc. ("SESAC") and Global Music Rights LLC ("GMR"). These organizations negotiate fees with copyright users, collect royalties and distribute them to the rights holders.

The holders of the mechanical rights in musical compositions, generally songwriters and their music publishers, have traditionally licensed these rights through the statutory license set forth in Section 115 of the United States Copyright Act; however, mechanical rights can also be licensed directly.

The changing market for musical compositions may have an adverse effect on our Sirius XM business and our Pandora business, including increasing our costs and limiting the musical works available to us.

Sirius XM Business. We have arrangements with ASCAP, BMI, SESAC, and GMR to license the musical compositions we use on our satellite radio and streaming services. These arrangements generally include fixed payments during the term of the agreement. Our Sirius XM business does not require a mechanical license.

Pandora Business. We have arrangements with ASCAP, BMI, SESAC, GMR and a variety of other copyright owners to license the musical compositions performance rights we use on our Pandora services. For our Pandora ad-supported radio service, each copyright holder receives as a performance royalty its usage-based and ownership-based share of a royalty pool equal to 21.5% of the content acquisition costs that we pay for sound recordings on our ad-supported service.

Pandora must also license reproduction rights, which are also referred to as mechanical rights, to offer the interactive features of the Pandora services. For our Pandora subscription services, copyright holders receive payments for these rights at the rates determined in accordance with the statutory license set forth in Section 115 of the United States Copyright Act. In January 2018, the Copyright Royalty Board (the "CRB") set a new rate structure for the five-year period commencing January

1, 2018 and ending on December 31, 2022. The rate was 13.3% of revenues or 24.1% of record label payments in 2020. The rate was scheduled to increase over the five-year period to 15.1% of revenues or 26.2% of record label payments by 2022.

In August 2020, the United States Court of Appeals for the District of Columbia Circuit concluded that the CRB failed to provide adequate notice of the rate structure it adopted, failed to explain its rejection of a past settlement agreement as a benchmark for going forward, and never identified the source of its asserted authority to substantively redefine a material term of its initial determination. For these reasons, the Court of Appeals overturned the CRB's adopted rate structure and percentage rates and remanded the proceeding to the CRB for further proceedings. The CRB has announced further proceedings to consider and address the Court of Appeals' decision.

Sound Recordings

Operators of a non-interactive satellite radio or streaming service are entitled to license sound recordings under the statutory license contained in Section 114 of the United States Copyright Act (the "statutory license"). Under the statutory license, we may negotiate royalty arrangements with the owners of sound recordings or, if negotiation is unsuccessful, the royalty rate is established by the CRB. Sound recording rights holders, typically large record companies, are primarily represented by SoundExchange, Inc. ("SoundExchange"), an organization which negotiates licenses, and collects and distributes royalties on behalf of record companies and performing artists.

Interactive streaming services, such as Pandora Plus and Pandora Premium, do not qualify for the statutory license and the services must negotiate direct license arrangements with the owners of copyrights in sound recordings.

Sirius XM Business. For the ten-year period commencing January 1, 2018 and ending on December 31, 2027, the CRB set the royalty rate payable by us under the statutory license covering the performance of sound recordings over our Sirius XM satellite radio service, and the making of ephemeral (server) copies in support of such performances, to be 15.5% of gross revenues, subject to exclusions and adjustments. The revenue subject to royalty includes subscription revenue from our U.S. satellite digital audio radio subscribers, and advertising revenue from channels other than those channels that make only incidental performances of sound recordings. The rates and terms permit us to reduce the payment due each month for those sound recordings directly licensed from copyright owners and exclude from our revenue certain other items, such as royalties paid to us for intellectual property, sales and use taxes, bad debt expense and generally revenue attributable to areas of our business that do not involve the use of copyrighted sound recordings.

In 2020, we paid a per performance rate for the streaming of certain sound recordings of $0.0024 on our Sirius XM streaming service.

Pandora Business. For our Pandora business, we have entered into direct license agreements with major and independent music labels and distributors for a significant majority of the sound recordings that stream on the Pandora ad-supported service, Pandora Plus and Pandora Premium.

For sound recordings that we stream and for which we have not entered into a direct license agreement with the sound recording rights holders, the sound recordings are streamed pursuant to the statutory license, and applicable rates thereunder, set by the CRB for the period commencing on January 1, 2016 and ending on December 31, 2020. Effective January 1, 2020, the rate for our non-subscription services, such as our ad-supported radio service, was adjusted for inflation to $0.0018 per play, and the rate for our subscription services, such as Pandora Plus and Pandora Premium, was adjusted for inflation to $0.0024. Sound recordings subject to the statutory license can only be played through our radio services and not through services that are offered on-demand or offline or through any replay or additional skip features. The CRB has completed a proceeding to determine the rates and terms for the sound recordings streamed pursuant to the statutory license for the period commencing on January 1, 2021 and ending on December 31, 2025. We expect the CRB to issue its determination of these rates and terms on or prior to April 15, 2021.

Prior to the enactment of the Orrin G. Hatch-Bob Goodlatte Music Modernization Act in October 2018, our rights to perform certain sound recordings that were fixed before February 15, 1972 were governed by state law. We still face a class action lawsuit brought by plaintiffs who allege that Pandora violated their alleged exclusive copyright ownership rights to the reproduction and public performance of sound recordings created prior to February 15, 1972. See "Item 3. Legal Proceedings" of this Annual Report on Form 10-K for information on this action.

Trademarks

Sirius XM Business

We have registered, and intend to maintain, the trademarks "Sirius", "XM", "SiriusXM" and "SXM" with the United States Patent and Trademark Office in connection with the services we offer. We are not aware of any material claims of infringement or other challenges to our right to use the "Sirius", "XM", "SiriusXM" or "SXM" trademarks in the United States. We also have registered, and intend to maintain, trademarks for the names of certain of our channels. We have also registered the trademarks "Sirius", "XM" and "SiriusXM" in Canada. We have granted a license to use certain of our trademarks in Canada to Sirius XM Canada.

Pandora Business

We have registered, and intend to maintain, the trademarks "Pandora," "Ampcast" and "Music Genome Project," in addition to a number of other Pandora logos and marks, with the United States Patent and Trademark Office in connection with the services we offer. We also have registered the trademark "Pandora" in Australia, Canada, Chile, the European Union, India, Israel, Mexico, New Zealand, Switzerland, Taiwan and other countries, and the trademark "Music Genome Project" in Australia, Canada, China and New Zealand.

Human Capital Resources

General

As of December 31, 2020, we had 5,726 full-time and part-time employees, the overwhelming majority of which were full-time employees. During 2020, our workforce increased by approximately 450 employees compared to the prior year, and our core voluntary full-time employee turnover rate was approximately 6%.

Our business relies on our ability to attract and retain talented employees. To attract and retain talent, we strive to create a diverse, inclusive and supportive workplace, with opportunities for our employees to grow and develop in their careers, supported by competitive compensation, benefits and health and wellness programs, and by programs that build connections between our employees and their communities.

Corporate Culture

We are focused on creating a corporate culture of integrity and respect, with the goal of working together to drive our business to be creative, innovative and competitive. To achieve these objectives, we have adopted and regularly communicate to our employees the following core values, which we call "**AMPLIFY**":

- **A**pplaud and encourage new thinking
- **M**ove forward and be purposeful in our desire to win
- **P**rioritize honesty, integrity and respectful communication
- **L**ean on each other and learn from one another
- **I**nvest in our actions and commit to the follow through
- **F**ind ways to give back by focusing on community and feeding your individuality
- **Y**ou Matter. We embrace our differences, empower each other and include everyone

We operate a performance-based environment where results matter and financial discipline is enforced. We have tried to create a highly collaborative culture in which employees feel a sense of pride that their input is sought after and valued. At the same time, we believe in holding individuals accountable and have tried to create a culture in which employees "do what they say they are going to do." Still, we believe that our culture is a long-term competitive advantage for us, fuels our ability to execute and is a critical underpinning of our employee talent strategy.

Diversity and Inclusion

We believe that a diverse workforce is critical to our success. We cultivate an inclusive environment where human differences are valued, respected, supported and amplified. We have taken actions to recruit, retain, develop and advance a diverse and talented workforce. Our diversity and inclusion efforts are led by our Vice President, Head of Diversity & Inclusion. This position regularly reports to our Chief Executive Officer and works with our executive officers.

We are focused on increasing women and minority representation at all levels of our organization. We recruit talent in diverse communities, including by engaging as a sponsor of professional conferences, such as Sistas in Sales, Tech Intersections, and AfroTech. We have created a program, that we call Pathways, that provides recent graduates of Historically Black Colleges and Universities with entry-level full-time opportunities. We also have agreements with third parties designed to offer leadership development for Black, Latinx and Native American employees. Additionally, we provide a mentoring program to help underrepresented employees benefit from coaching, guidance, and feedback. We have six employee resource groups, including groups supporting Women, People of Color, Africans and African Americans, Latinx and Hispanic, Veterans, the LGBTQIA+ community and employees with disabilities.

We also periodically request our employees to voluntarily self-identify personal information related to gender, race, ethnicity, veteran and disability status. This information about the demographics of our employee population allows us to assess and evaluate our diversity and inclusion efforts.

Health, Safety and Wellness

We are committed to the health, safety and wellness of our employees. We provide our employees and their families with access to a variety of health and wellness programs, including benefits that support their physical and mental health.

In response to the COVID-19 pandemic, we implemented changes that we consider to be in the best interest of our employees, as well as the communities in which we operate, and which comply with government regulations. As a result of the COVID-19 pandemic, the vast majority of our employees are working from home. We have implemented additional safety measures for employees continuing critical on-site work. We believe we have been able to preserve our business continuity without sacrificing our commitment to keeping our employees safe during the COVID-19 pandemic.

Compensation and Benefits

We operate in a highly competitive and technologically challenging environment. We provide competitive compensation and benefits programs for our employees. In addition to salaries, these programs (which vary by employee level and by the country where the employees are located) include, among other items, bonuses, stock awards, a 401(k) plan and a non-qualified deferred compensation plan, healthcare and insurance benefits, health savings and flexible spending accounts, paid time off, paid parental leave, advocacy resources, flexible work schedules and employee assistance programs.

Talent Development

We provide numerous training opportunities for our employees, with a focus on continuous learning and development and methodologies to manage performance, provide feedback and develop talent. We also have an internal digital workplace which provides employees with quick access to learning resources that cover a variety of topics.

Our talent development programs attempt to provide employees resources to achieve career goals and build management and leadership skills. We offer mentoring programs, management training and leadership sessions to support the professional growth of our employees.

Building Connections — With Each Other and our Communities

Building connections between our employees, their families and our communities can, in our view, create a more meaningful, fulfilling and enjoyable workplace. Through our engagement programs, employees can pursue their interests and hobbies, and connect to each other and to volunteering and giving opportunities.

Our corporate giving and volunteering programs encourage employees to give to the causes most meaningful to them. We have a charitable matching program which offers employees a dollar for dollar match on their charitable contributions up to a specific cap. In addition, full-time employees are eligible to receive five days of paid time off to volunteer with charitable organizations of their choice. During 2020, over 400 employees volunteered almost 4,500 hours, while over 800 employees utilized our charitable matching program, benefiting almost 1,000 charitable organizations.

In 2020, we donated over $1.5 million to a number of hospitals in support of COVID-19 relief efforts as well as various charities to support racial equality and address racial and social injustice. In 2020, we also contributed $25 million to a donor advised fund to support our planned charitable contributions over the next five years, an effort we call SiriusXM Cares. We expect to use these funds to contribute to organizations and take actions which promote and further social equality, education,

hiring, and combat racial injustice. Separately, in 2020, we made contributions to the Black Lives Matter Global Network, the Pillsbury Communities Foundation, the Equal Justice Initiative and the NAACP Legal Defense and Educational Fund.

Corporate Information and Available Information

Our executive offices are located at 1221 Avenue of the Americas, 35th floor, New York, New York 10020 and our telephone number is (212) 584-5100. Our internet address is www.siriusxm.com. Our annual, quarterly and current reports, and any amendments to those reports, filed or furnished pursuant to Section 13(a) or 15(d) of the Securities Exchange Act of 1934, as amended (the "Exchange Act"), may be accessed free of charge through our website as soon as reasonably practicable after we have electronically filed or furnished such material with the SEC. The SEC maintains an Internet site (http://www.sec.gov) that contains reports, proxy and information statements and other information regarding issuers that file electronically with the SEC. Siriusxm.com (including any other reference to such address in this Annual Report) is an inactive textual reference only, meaning that the information contained on or accessible from the website is not part of this Annual Report on Form 10-K and is not incorporated in this report by reference. We may use our website as a distribution channel of material company information. Financial and other important information regarding us is routinely posted on and accessible through our website at https://www.siriusxm.com. In addition, you may automatically receive email alerts and other information about us when you enroll your email address by visiting the "Email Alerts" section under the "Shareholder Services" heading at http://investor.siriusxm.com/investor-overview.

Information About Our Executive Officers

Certain information regarding our executive officers as of January 29, 2021 is provided below:

Name	Age	Position
Jennifer C. Witz	52	Chief Executive Officer
Scott A. Greenstein	61	President, Chief Content Officer
Dara F. Altman	62	Executive Vice President and Chief Administrative Officer
Patrick L. Donnelly	59	Executive Vice President, General Counsel and Secretary
Sean S. Sullivan	53	Executive Vice President and Chief Financial Officer

Jennifer C. Witz has served as our Chief Executive Officer since January 1, 2021. From March 2019 through December 2020, she was our President, Sales, Marketing and Operations. From August 2017 until March 2019 she was our Executive Vice President, Chief Marketing Officer. Ms. Witz joined us in March 2002 and has served in a variety of senior financial and operating roles. Before joining Sirius XM, Ms. Witz was Vice President, Planning and Development, at Viacom Inc., a global media company, and prior to that she was Vice President, Finance and Corporate Development, at Metro-Goldwyn-Mayer, Inc., an entertainment company focused on the production and global distribution of film and television content. Ms. Witz began her career in the Investment Banking Department at Kidder, Peabody & Co Inc. She is a member of the board of directors of LendingTree, Inc., a leading online marketplace that connects consumers with financial products, and serves on its compensation committee.

Scott A. Greenstein has served as our President and Chief Content Officer since May 2004. Prior to May 2004, Mr. Greenstein was Chief Executive Officer of The Greenstein Group, a media and entertainment consulting firm. From 1999 until 2002, he was Chairman of USA Films, a motion picture production, marketing and distribution company. From 1997 until 1999, Mr. Greenstein was Co-President of October Films, a motion picture production, marketing and distribution company. Prior to joining October Films, Mr. Greenstein was Senior Vice President of Motion Pictures, Music, New Media and Publishing at Miramax Films, and held senior positions at Viacom Inc.

Dara F. Altman has served as our Executive Vice President and Chief Administrative Officer since September 2008. From January 2006 until September 2008, Ms. Altman served as Executive Vice President, Business and Legal Affairs, of XM. Ms. Altman was Executive Vice President of Business Affairs for Discovery Communications from 1997 through 2005. From 1993 to 1997, Ms. Altman served as Senior Vice President and General Counsel of Reiss Media Enterprises, which owned Request TV, a national pay-per-view service. Before Request TV, Ms. Altman served as counsel for Home Box Office. Ms. Altman started her career as an attorney at the law firm of Willkie Farr & Gallagher LLP.

Patrick L. Donnelly has served as our Executive Vice President, General Counsel and Secretary, since May 1998. From June 1997 to May 1998, he was Vice President and Deputy General Counsel of ITT Corporation, a hotel, gaming and entertainment company that was acquired by Starwood Hotels & Resorts Worldwide, Inc. in February 1998. From October

1995 to June 1997, he was assistant general counsel of ITT Corporation. Prior to October 1995, Mr. Donnelly was an attorney at the law firm of Simpson Thacher & Bartlett LLP.

Sean S. Sullivan has served as our Executive Vice President and Chief Financial Officer since October 2020. From June 2011 to October 2020, he was the Executive Vice President and Chief Financial Officer of AMC Networks Inc., a global entertainment company. From September 2010 to June 2011, he was the Chief Corporate Officer of Rainbow Media Holdings LLC, the predecessor of AMC Networks Inc. and then a subsidiary of Cablevision Systems Corp. Prior to that, Mr. Sullivan was Chief Financial Officer of HiT Entertainment, a children's entertainment company, from 2009 to 2010; the Chief Financial Officer and President of the Commercial Print and Packaging division of Cenveo, Inc., a diversified manufacturing company focused on print-related products, from 2005 to 2008; and Executive Vice President and Chief Financial Officer of Spencer Press, Inc., a catalogue printing company, from 2004 to 2005. He is a member of the board of directors of Acushnet Holdings Corp., a leader in the design, development, manufacturing and distribution of golf products, and serves on its nominating and corporate governance committee and is the chair of its audit committee.

ITEM 1A. *RISK FACTORS*

In addition to the other information in this Annual Report on Form 10-K, including the information under the caption Item 1. Business "Competition," the following risk factors should be considered carefully in evaluating us and our business. This Annual Report on Form 10-K contains forward-looking statements within the meaning of the Private Securities Litigation Reform Act of 1995. Actual results and the timing of events could differ materially from those projected in forward-looking statements due to a number of factors, including those set forth below and elsewhere in this Annual Report on Form 10-K. See "Special Note About Forward-Looking Statements" following this Item 1A. Risk Factors.

The COVID-19 pandemic is adversely impacting our business.

We are monitoring and continue to assess the ongoing effects of the COVID-19 pandemic on our businesses and operations. The scope of the effects of the COVID-19 pandemic and its related economic impact on our businesses depends on many factors beyond our control, and the effects are difficult to assess or predict with meaningful precision both generally and specifically as to our Sirius XM and Pandora businesses.

We have taken actions to help ensure the continuity of our audio entertainment service through the COVID-19 pandemic, including activating our business continuity plans and implementing other steps to enable employees to work remotely. The impact of these steps on our workforce has presented new challenges for our employees as they balance the demands of the pandemic with their daily operating responsibilities.

In addition, the COVID-19 pandemic has created various uncertainties in our business, including:

- Limits on our ability to fully staff our customer service operations and certain of our marketing efforts, particularly telemarketing,
- Changes to our sales and marketing practices as we react to shifts in the volume of auto sales and subscriber expectations, particularly in customer service and billing operations,
- Possible increases in bad debts as the pandemic broadly affects employment and consumer spending,
- The loss of sales and orders in our advertising business, particularly as industries that are disproportionately affected by the pandemic - such as the travel and travel-related industries - curtail and in many cases stop their advertising spending, and
- Other consequences in our marketing, sales and other operations which we have not yet identified.

Importantly, the COVID-19 pandemic may have a material adverse effect on other third parties upon which we rely, and our ability to assess those effects in any meaningful manner are difficult at this time. In addition, a number of third parties upon which we depend may experience financial difficulties or file for bankruptcy protection. Such third parties may not be able to perform their obligations or may be relieved of their obligations to us as part of the bankruptcy process, which in either case could adversely affect our business.

Lastly, the negative impact on consumer spending in the United States due to the COVID-19 pandemic may, depending upon the severity, adversely affect several areas of our Sirius XM and Pandora businesses and may negatively impact our operating results.

Risks Relating to our Business and Operations

We face substantial competition and that competition is likely to increase over time.

We compete for the time and attention of our listeners with other content providers on the basis of a number of factors, including quality of experience, relevance, acceptance and perception of content quality, ease of use, price, accessibility, brand awareness, reputation and, in the case of our ad-supported Pandora service, perception of ad load, features and functionality. Our ability to attract and retain subscribers and listeners depends on our success in creating and providing popular or unique programming. A summary of certain services that compete with us is contained in the section entitled "Item 1. Business - Competition" of this Annual Report on Form 10-K.

Our subscribers and listeners can obtain similar content for free through terrestrial radio stations, YouTube and other internet services. We also compete for the time and attention of our listeners with providers of other in-home and mobile entertainment services, and we compete for advertising sales with large scale online advertising platforms, such as Amazon, Facebook and Google, and with traditional media outlets.

Our streaming services also compete for listeners on the basis of the presence and visibility of our apps, which are distributed via app stores operated by Apple and Google. We face significant competition for listeners from these companies, which also promote their own music and content. In addition, our competitors' streaming products may be pre-loaded or integrated into consumer electronics products or automobiles more broadly than our streaming products, creating a visibility advantage. If we are unable to compete successfully for listeners against other media providers, then our business may suffer. Additionally, the operator of an app store may reject our app or amend the terms of their license in a way that inhibits our ability to distribute our apps, negatively affects our business, or limits our ability to increase subscribers and listeners.

Competition could result in lower subscription, advertising or other revenue and an increase in our expenses and, consequently, lower our earnings and free cash flow. We cannot assure you we will be able to compete successfully with our existing or future competitors or that competition will not have an adverse impact on our operations and financial condition.

If our efforts to attract and retain subscribers and listeners, or convert listeners into subscribers, are not successful, our business will be adversely affected.

Our business will be adversely affected if we are unable to attract new subscribers and listeners and retain our current subscribers and listeners.

Our ability to increase the number of subscribers and listeners to our services, retain our subscribers and listeners or convert listeners into subscribers, is uncertain and subject to many factors, including:

- the price of our service;
- the ease of use of our service;
- the effectiveness of our marketing programs;
- with respect to our Sirius XM service, the sale or lease rate of new vehicles in the United States;
- the rate at which our self-pay subscribers to our Sirius XM service buy and sell new and used vehicles in the United States;
- our ability to convince owners and lessees of new and used vehicles that include satellite radios to purchase subscriptions to our Sirius XM service;
- the perceived value of our programming and the packages and services we offer;
- our ability to introduce features in a manner that is favorably received by consumers;
- our ability to keep up with rapidly evolving technology and features in audio entertainment;
- our ability to respond to evolving consumer tastes; and
- actions by our competitors, such as Spotify, Apple, Google, Amazon, Facebook and other audio entertainment and information providers.

We engage in extensive marketing efforts and the continued effectiveness of those efforts is an important part of our business.

We engage in extensive marketing efforts across a broad range of media to attract and retain subscribers and listeners to our services. We employ a wide variety of communications tools as part of our marketing campaigns, including telemarketing efforts and email solicitations. The effectiveness of our marketing efforts is affected by a broad range of factors, including creative and execution factors. Our ability to reach consumers with radio and television advertising, direct mail materials, email solicitations and telephone calls is an important part of our efforts and a significant factor in the effectiveness of our marketing. If we are unable to reach consumers through email solicitations or telemarketing, including as a result of "spam" and email filters, call blocking technologies or "do-not-call" or other marketing regulations, our marketing efforts will be adversely affected. A decline in the effectiveness of our marketing efforts could have an adverse impact on our operations and financial condition.

We rely on third parties for the operation of our business, and the failure of third parties to perform could adversely affect our business.

Our business depends, in part, on various third parties, including:

- manufacturers that build and distribute satellite radios;
- companies that manufacture and sell integrated circuits for satellite radios;
- third-party software that we incorporate in and include with our apps and service;
- programming providers, including agreements with owners of various copyrights in music, and on-air talent;
- vendors that operate our call centers;
- vendors that have designed or built, and vendors that support or operate, other important elements of our systems, including our satellites and cloud-based systems we use;
- Apple, who distributes our apps through its App Store and who, in the case of our Pandora service, we rely on to collect fees and approve the terms of our consumer offers; and
- Google, who distributes our apps through its App Store and who, in the case of our Pandora service, we rely on to collect fees and approve the terms of our consumer offers, and who plays an important role in the fulfillment of the ads we sell on our Pandora platform.

If one or more of these third parties do not perform in a satisfactory or timely manner, including complying with our standards and practices relating to business integrity, personnel and cybersecurity, our business could be adversely affected.

The operation of our apps and service offerings could be impaired if errors occur in the third party software that we use. It is difficult for us to correct any defects in third party software because the development and maintenance of the software is not within our control. Our third party licensors may not continue to make their software available to us on acceptable terms, invest the appropriate levels of resources in their software to maintain and enhance its capabilities, or remain in business. Failure of these third party licensors could harm our streaming services.

In addition, a number of third parties on which we depend have experienced, and may in the future experience, financial difficulties or file for bankruptcy protection. Such third parties may not be able to perform their obligations to us in a timely manner, if at all, as a result of their financial condition or may be relieved of their obligations to us as part of seeking bankruptcy protection.

We may not realize the benefits of acquisitions or other strategic investments and initiatives.

Our strategy includes selective acquisitions, other strategic investments and initiatives that allow us to expand our business. The success of any acquisition depends upon effective integration, cultural assimilation and management of acquired businesses and assets into our operations, which is subject to risks and uncertainties, including realizing the growth potential, the anticipated synergies and cost savings, the ability to retain and attract personnel, the diversion of management's attention for other business concerns, and undisclosed or potential legal liabilities of the acquired business or assets.

We are devoting significant management attention and resources to integrate the businesses and operations of certain acquisitions. The integration process could result in the distraction of our management, the disruption of our ongoing business or inconsistencies in our services, standards, controls, procedures and policies, any of which could adversely affect our ability to maintain relationships with customers, vendors and employees or to achieve the anticipated benefits of the acquisition.

Risks Relating to our Sirius XM Business

A substantial number of our Sirius XM service subscribers periodically cancel their subscriptions and we cannot predict how successful we will be at retaining customers.

As part of our business, we experience, and expect to experience in the future, subscriber turnover (i.e., churn). If we are unable to retain current subscribers at expected rates, or the costs of retaining subscribers are higher than expected, our financial performance and operating results could be adversely affected.

We cannot predict how successful we will be at retaining customers who purchase or lease vehicles that include a subscription to our Sirius XM service. A substantial percentage of our Sirius XM subscribers are on discounted pricing plans and our ability to retain these subscribers or migrate them to higher priced plans is uncertain. Our discounted pricing strategy is widely known, and this may interfere with our ability to collect our ordinary subscription prices. In addition, a substantial number of those subscribers periodically cancel their subscriptions when offered a subscription at a higher price.

Our ability to profitably attract and retain subscribers to our Sirius XM service as our marketing efforts reach more price-sensitive consumers is uncertain.

Our efforts to acquire subscribers purchasing or leasing used vehicles may attract price sensitive consumers. For example, consumers purchasing or leasing used vehicles may be more price sensitive than consumers purchasing or leasing new vehicles, may convert from trial subscribers to self-paying subscribers at a lower rate, and may cancel their subscriptions more frequently than consumers purchasing or leasing new vehicles. Some of our marketing efforts may also attract more price sensitive subscribers, and our efforts to increase the penetration of satellite radios in new, lower-priced vehicle lines may result in the growth of more economy-minded subscribers. In addition, over time the changing demographics of our subscriber base, such as the expected increase in "Millennial generation customers," may increase the number of subscribers accustomed to consuming entertainment through ad-supported products. Each of these factors may harm our revenue or require additional spending on marketing efforts to demonstrate the value of our Sirius XM service.

Our business depends in part upon the auto industry.

A substantial portion of the subscription growth for our satellite radio service has come from purchasers and lessees of new and used automobiles in the United States, and we expect this to be an important source of subscribers for our satellite radio service in the future.

We have agreements with every major automaker to include satellite radios in new vehicles, although these agreements do not require automakers to install specific or minimum quantities of radios in any given period. Our business could be adversely affected if automakers do not continue to include our Sirius XM service in their products.

Automotive production and sales are dependent on many factors, including the availability of consumer credit, general economic conditions, consumer confidence and fuel costs. To the extent vehicle sales by automakers decline, or the penetration of factory-installed satellite radios in those vehicles is reduced, subscriber growth for our satellite radio service may be adversely impacted.

Sales of used vehicles represent a significant source of new subscribers for our satellite radio service. We have agreements with auto dealers and companies operating in the used vehicle market to provide us with data on sales of used satellite radio enabled vehicles, including in many cases the consumer's name and address. The continuing availability of this data is important to our future growth, and the loss of such data may harm our revenue and business.

Failure of our satellites would significantly damage our business.

The lives of the satellites required to operate our Sirius XM service vary depending on a number of factors, including:

- degradation and durability of solar panels;
- quality of construction;
- random failure of satellite components, which could result in significant damage to or loss of a satellite;
- amount of fuel the satellite consumes; and
- damage or destruction as a result of electrostatic storms, terrorist attacks, collisions with other objects in space or other events, such as nuclear detonations, occurring in space.

In the ordinary course of operation, satellites experience failures of component parts and operational and performance anomalies. Components on several of our in-orbit satellites have failed, and from time to time we have experienced anomalies in the operation and performance of these satellites. These failures and anomalies are expected to continue in the ordinary course, and we cannot predict if any of these possible future events will have a material adverse effect on our operations or the life of our existing in-orbit satellites. In addition, our Sirius network of terrestrial repeaters communicates with a single third party satellite. Our XM network of terrestrial repeaters communicates with a single XM satellite. If the satellites communicating with the applicable repeater network fail unexpectedly, the services would be disrupted for several hours or longer.

On December 13, 2020, our SXM-7 satellite was successfully launched. In-orbit testing of SXM-7 began on January 4, 2021. During in-orbit testing of SXM-7, events occurred which have caused failures of certain SXM-7 payload units. An evaluation of SXM-7 is underway. The full extent of the damage to SXM-7 is not yet known. We have purchased insurance policies covering SXM-7 through launch and the first year of in-orbit operation. The aggregate coverage under those insurance policies is $225 million. We have notified the underwriters of these policies of a potential claim with respect to SXM-7.

Any material failure of our operating satellites could cause us to lose customers for our Sirius XM service and could materially harm our reputation and our operating results. With the exception of the insurance we have purchased covering the launch and the first year of in-orbit operation of SXM-7 and SXM-8, we do not have insurance for our in-orbit satellites. Additional information regarding our fleet of satellites is contained in the section entitled “Item 1. Business - Satellites, Terrestrial Repeaters and Other Satellite Facilities” of this Annual Report on Form 10-K.

Our Sirius XM service may experience harmful interference from wireless operations.

The development of applications and services in spectrum adjacent to the frequencies licensed to us, as well as the combination of signals in other frequencies, may cause harmful interference to our satellite radio service in certain areas of the United States. Certain operations or combination of operations permitted by the FCC in spectrum, other than our licensed frequencies, results in the loss of signal to our service, and the reception of our satellite radio service can be adversely affected in certain areas. Elimination of this interference may not be possible in all cases. In other cases, our efforts to reduce this interference may require extensive engineering efforts and additions to our terrestrial infrastructure. These mitigation efforts may be costly and take several years to implement and may not be entirely effective. In certain cases, we are dependent on the FCC to assist us in preventing harmful interference to our service.

Risks Relating to our Pandora Business

Our Pandora ad-supported business has suffered a substantial and consistent loss of monthly active users, which may adversely affect our Pandora business.

The number of monthly active users to our ad-supported Pandora business has declined consistently for several years, and may further contract in the future.

The size of our ad-supported listener base is an important element of our Pandora business. The decline in our listener base has resulted in fewer listener hours and available advertising spots on our Pandora service, which ultimately may result in declines in our advertising revenue, and adversely affect our Pandora business. The contraction of our ad-supported listener base also decreases the size of demographic groups targeted by advertisers, which may hurt our ability to deliver advertising in a manner that maximizes advertisers’ return on investment and compete with other digital advertising platforms.

Our failure to convince advertisers of the benefits of our Pandora ad-supported service could harm our business.

We derive substantial revenue on our Pandora service from the sale of advertising. Our ability to attract and retain advertisers, and ultimately to sell our advertising inventory, depends on a number of factors, including:

- the number of listener hours on the Pandora ad-supported service, particularly the number of listener hours attributable to high-value demographics;
- keeping pace with changes in technology and our competitors, some of which have significant influence over the distribution of our Pandora app;
- competing effectively for advertising with other dominant online services, such as Spotify, Google and Facebook, as well as other marketing and media outlets, some of which provide services to us that we depend upon to fulfill the advertising we sell;
- successfully competing for local radio advertising;

- demonstrating the ability of advertisements to reach targeted audiences, including the value of mobile digital advertising;
- ensuring that new ad formats and ad product offerings are attractive to advertisers and that inventory management decisions (such as changes to ad load, frequency, prominence and quality of ads that we serve listeners) do not have a negative impact on listener hours; and
- adapting to technologies designed to block the display of our ads.

Our agreements with advertisers are generally short-term and may be terminated at any time by the advertiser. Advertisers may leave us for competing alternatives at any time. Failure to demonstrate to advertisers the value of our Pandora service would result in reduced spending by, or loss of, advertisers, which would harm our revenue and business.

If we are unable to maintain revenue growth from our advertising products, particularly in mobile advertising, our results of operations will be adversely affected.

In order to effectively monetize listener hours, we must, among other things, convince advertisers to migrate spending to nascent advertising markets, penetrate local advertising markets and develop compelling ad product solutions.

The substantial majority of the total listening to our Pandora service occurs on mobile devices. We are engaged in efforts to continue to convince advertisers of the capabilities and value of mobile digital advertising and to direct an increasing portion of their advertising spend to our ad-supported Pandora service.

We are continuing to build our sales capability to penetrate local advertising markets, which places us in competition with terrestrial radio. We may not be able to capture an increasing share of local and audio advertising revenue, which may have an adverse impact on our future revenue.

Changes to mobile operating systems and browsers may hinder our ability to sell advertising and market our services.

We use shared common device identifiers that are universal in the advertising technology ecosystem, such as Apple's Identifier for Advertisers, a random device identifier assigned by Apple to a user's device. We use these common device identifiers for targeting, advertising effectiveness and measurement for the Pandora's advertising business and for Pandora's consumer marketing purposes. These common device identifiers enable us to match audiences, including with second- and third-party data providers and measurement vendors, and enhance Pandora's advertising targeting segments with additional data. In our programmatic advertising business, we use common identifiers for several important functions, such as targeting and bidding. We also use common device identifiers to evaluate the success of our Pandora brand consumer marketing campaigns.

Apple, as well as mobile operating system and browser providers, have announced product features and plans that may adversely impact our ability to use these common identifiers and data collected in connection with these common identifiers in our Pandora business.

If we fail to accurately predict and play music, comedy or other content that our Pandora listeners enjoy, we may fail to retain existing and attract new listeners.

A key differentiating factor between our Pandora service and other music content providers is our ability to predict music that our listeners will enjoy. The effectiveness of our personalized playlist generating system depends, in part, on our ability to gather and effectively analyze large amounts of listener data and feedback. We have no assurance that we will continue to be successful in enticing listeners to our Pandora service to give a thumbs-up or thumbs-down to enough songs to effectively predict and select new and existing songs. In addition, our ability to offer listeners songs that they have not previously heard and impart a sense of discovery depends on our ability to acquire and appropriately categorize additional tracks that will appeal to our listeners' diverse and changing tastes. Many of our competitors currently have larger music and content catalogs than we offer and they may be more effective in providing their listeners with an appealing listener experience.

We also provide comedy and podcast content on our Pandora service, and we try to predict what our listeners will enjoy using technology similar to the technology that we use to generate personalized playlists for music. The risks that apply to our ability to satisfy our listeners' musical tastes apply to comedy, podcasts and other content to an even greater extent, particularly since we do not yet have as large a data set on listener preferences for comedy, podcasts and other content, and have a smaller catalog of such content as compared to music.

Our ability to predict and select music, comedy, podcasts and other content that our listeners enjoy is important to the perceived value of our Pandora service to consumers and the failure to make accurate predictions would adversely affect our ability to attract and retain subscribers and listeners, increase listener hours and sell advertising.

Risks Relating to Laws and Governmental Regulations

Privacy and data security laws and regulations may hinder our ability to market our services, sell advertising and impose legal liabilities.

We receive a substantial amount of data on purchasers and lessees of new and used vehicles from third parties. We use this data to market our services. We collect and use demographic and other information, including location information, from and about our listeners through the internet. Further, we and third parties use tracking technologies, including "cookies" and related technologies, to help us manage and track our listeners' interactions with our services and deliver relevant advertising.

Various federal and state laws and regulations, as well as the laws of foreign jurisdictions, govern the collection, use, retention, sharing and security of the data we receive. Privacy groups and government authorities have increasingly scrutinized the ways in which companies collect and share data, including linking personal identities and data associated with particular users or devices with data collected through the internet, and we expect such scrutiny to increase. Alleged violations of laws and regulations relating to privacy and data may expose us to potential liability, may require us to expend significant resources in responding to and defending such allegations and claims and could in the future result in negative publicity and a loss of confidence in us by our subscribers, listeners and advertisers.

Privacy-related laws and regulations, such as the California Consumer Privacy Act and the European General Data Protection Regulation, are evolving and subject to potentially differing interpretations. Various federal and state legislative and regulatory bodies as well as foreign legislative and regulatory bodies may expand current or enact new laws regarding privacy and data security-related matters. New laws, amendments to or re-interpretations of existing laws and contractual obligations, as well as changes in our listeners' expectations and demands regarding privacy and data security, may limit our ability to collect and use consumer data. Restrictions on our ability to collect, access and harness listener data, or to use or disclose listener data or profiles that we develop using such data, could limit our ability to deliver personalized content to our listeners and offer targeted advertising opportunities to our advertising customers, each of which are important to the success of our business. Increased regulation of data utilization and distribution practices could increase our costs of operation or otherwise adversely affect our business.

Consumer protection laws and our failure to comply with them could damage our business.

Federal and state consumer protection laws, rules and regulations cover nearly all aspects of our marketing efforts, including the content of our advertising, the terms of consumer offers and the manner in which we communicate with consumers. The nature of our business requires us to expend significant resources to try to ensure that our marketing activities comply with consumer protection laws, including laws relating to telemarketing activities and privacy. These efforts may not be successful, and we may have to expend even greater resources in our compliance efforts.

Modifications to consumer protection laws, including decisions by courts and administrative agencies interpreting these laws, could have an adverse impact on our ability to attract and retain subscribers and listeners to our services. There can be no assurance that new laws or regulations will not be enacted or adopted, preexisting laws or regulations will not be more strictly enforced or that our operations will comply with all applicable laws, which could have an adverse impact on our operations and financial condition.

Failure to comply with FCC requirements could damage our business.

We hold FCC licenses and authorizations to operate commercial satellite radio services in the United States, including satellites, terrestrial repeaters and related authorizations. The FCC generally grants licenses and authorizations for a fixed term. Although we expect our licenses and authorizations to be renewed in the ordinary course upon their expiration, there can be no assurance that this will be the case. Any assignment or transfer of control of any of our FCC licenses or authorizations must be approved in advance by the FCC.

The operation of our satellite radio systems is subject to significant regulation by the FCC under authority granted through the Communications Act of 1934 and related federal law. We are required, among other things, to operate only within specified frequencies; to coordinate our satellite radio services with radio systems operating in the same range of frequencies in neighboring countries; and to coordinate our communications links to our satellites with other systems that operate in the same frequency band.

Noncompliance by us with these requirements or other conditions or with other applicable FCC rules and regulations could result in fines, additional license conditions, license revocation or other detrimental FCC actions. There is no guarantee that Congress will not modify the statutory framework governing our services, or that the FCC will not modify its rules and regulations in a manner that would have an adverse impact on our operations.

Risks Associated with Data and Cybersecurity and the Protection of Consumer Information

If we fail to protect the security of personal information about our customers, we could be subject to costly government enforcement actions and private litigation and our reputation could suffer.

The nature of our business involves the receipt and storage of personal information about our subscribers and listeners including, in many cases, credit and debit card information. We have a program in place to detect and respond to data security incidents. However, the techniques used to gain unauthorized access to data systems are constantly evolving and may be difficult to detect for long periods of time. We may be unable to anticipate or prevent unauthorized access to data pertaining to our customers, including credit card and debit card information and other personally identifiable information. Our services, which are supported by our own systems and those of third-party vendors, are vulnerable to computer malware and attacks, any of which could lead to system interruptions, delays, or shutdowns, causing loss of critical data or the unauthorized access to personally identifiable information.

If we fail to protect the security of personal information about our customers or if an actual or perceived breach of security occurs on our systems or a vendor's systems, we could be exposed to costly government enforcement actions and private litigation and our reputation could suffer. We may also be required to expend significant resources to address these problems, including notification under various data privacy regulations, and our reputation and operating results could suffer. In addition, our subscribers and listeners, as well as potential customers, could lose confidence in our ability to protect their personal information, which could cause them to discontinue the use of our services. This loss of confidence would also harm our efforts to attract and retain advertisers, and unauthorized access to our programming would potentially create additional royalty expense with no corresponding revenue. Such events could adversely affect our results of operations. The costs of maintaining adequate protection, including insurance protection, against such threats as they develop in the future (or as legal requirements related to data security increase) could be material.

In addition, hardware, software, or applications we develop or procure from third parties may contain defects in design or manufacture or other problems that could unexpectedly compromise information security. Unauthorized parties may also attempt to gain access to our systems or facilities, or those of third parties with whom we do business, through fraud, trickery, or other forms of deceiving our employees, contractors or other agents. We may not be able to effectively control the unauthorized actions of third parties who may have access to the data we collect.

We may integrate the Pandora service with apps provided by third parties. In such case, we may not be able to control such third parties' use of listeners' data, ensure their compliance with the terms of our privacy policies, or prevent unauthorized access to, or use or disclosure of, information, any of which could expose us to potential liability and negative publicity and could cause our listeners and advertisers to discontinue use of our services.

To date, we have not had a significant cyber-attack or breach that has had a material impact on our business or results of operations. We have implemented systems and processes intended to secure our information technology systems and prevent unauthorized access to or loss of sensitive, confidential and personal data, including through the use of encryption and authentication technologies. Additionally, we have increased our monitoring capabilities to enhance early detection and timely response to potential security anomalies.

The cyber security measures we have implemented, however, may not be sufficient to prevent all possible attacks and may be vulnerable to hacking, employee error, malfeasance, system error, faulty password management or other irregularities. Further, the development and maintenance of these measures are costly and require ongoing monitoring and updating as technologies change and efforts to overcome security measures become increasingly sophisticated.

Interruption or failure of our information technology and communications systems could impair the delivery of our service and harm our business.

We rely on systems housed at our own premises and at those of third party vendors to enable subscribers and listeners to access our Pandora and Sirius XM services in a dependable and efficient manner. Any degradation in the quality, or any failure, of our systems could reduce our revenues, cause us to lose customers and damage our brands. Although we have implemented practices designed to maintain the availability of the information technology systems we rely on and mitigate the harm of any unplanned interruptions, we cannot anticipate all eventualities. We occasionally experience unplanned outages or technical difficulties. We could also experience loss of data or processing capabilities, which could cause us to lose customers and could harm our reputation and operating results.

We rely on internal systems and external systems maintained by manufacturers, distributors and service providers to take, fulfill and handle customer service requests and host certain online activities. Any interruption or failure of our internal or external systems could prevent us from servicing customers or cause data to be unintentionally disclosed. Our services have

experienced, and we expect them to continue to experience, periodic service interruptions and delays involving our own systems and those of our third-party vendors.

Our data centers and our information technology and communications systems are vulnerable to damage or interruption from natural disasters, malicious attacks, fire, power loss, telecommunications failures, computer viruses or other attempts to harm our systems. The occurrence of any of these events could result in interruptions in our services and unauthorized access to, or alteration of, the content and data contained on our systems and that these third party vendors store and deliver on our behalf.

Damage or interruption to our data centers and information technology and communications centers could expose us to data loss or manipulation, disruption of service, monetary and reputational damages, competitive disadvantage and significant increases in compliance costs and costs to improve the security and resiliency of our computer systems. The compromise of personal, confidential or proprietary information could also subject us to legal liability or regulatory action under evolving cybersecurity, data protection and privacy laws and regulations enacted by the U.S. federal and state governments or other foreign jurisdictions or by various regulatory organizations. As a result, our ability to conduct our business and our results of operations might be adversely affected.

Risks Associated with Certain Intellectual Property Rights

The market for music rights is changing and is subject to significant uncertainties.

We must maintain music programming royalty arrangements with, and pay license fees to, owners of rights in musical works in order to operate our services. Traditionally, BMI, ASCAP and SESAC have negotiated for these copyright users, collected royalties and distributed them to songwriters and music publishers. These traditional arrangements are changing. The fracturing of the traditional system for licensing rights in musical works may have significant consequences to our business, including increasing licensing costs and reducing the availability of certain pieces for use on our services.

Under the United States Copyright Act, we also must pay royalties to copyright owners of sound recordings for the performance of such sound recordings on our Sirius XM service. Those royalty rates may be established through negotiation or, if negotiation is unsuccessful, by the Copyright Royalty Board. Owners of copyrights in sound recordings have created SoundExchange, a collective organization, to collect and distribute royalties. SoundExchange is exempt by statute from certain U.S. antitrust laws and exercises significant market power in the licensing of sound recordings. Under the terms of the Copyright Royalty Board's existing decision governing sound recording royalties for satellite radio, we are required to pay a royalty based on our gross revenues associated with our satellite radio service, subject to certain exclusions, of 15.5% per year for each of the next seven years.

Our Pandora services depend upon maintaining complex licenses with copyright owners, and these licenses contain onerous terms.

Pandora has direct license agreements with many sound recording copyright and musical work copyright owners. These agreements grant us the right to operate Pandora Premium, and add interactive features, such as replays, additional skips and offline play, to Pandora's ad-supported service and to Pandora Plus.

The economic terms of these direct licenses are onerous and, as a result, we may not be able to profitably operate the Pandora services. However, the economic terms of these direct licenses may be "market," given the rates paid by Pandora's competitors. Competition for Pandora's services are primarily offered by entities that provide music and entertainment services as a small part of a larger business, such as Apple, Google and Amazon. These competitors have the ability to bear these onerous economic provisions to a much greater extent than our Pandora business. We may not be able to negotiate or obtain lower royalty rates under these direct licenses.

These direct licenses are complex. We may not be in compliance with the terms of these licenses, which could result in the loss of some or all of these licenses and some or all of the rights they convey. Similarly, many of these licenses provide that if the licensor loses rights in a portion of the content licensed under the agreement, that content may be removed from the license going-forward.

If Pandora fails to maintain these direct licenses, or if rights to certain music were no longer available under these licenses, then we may have to remove the affected music from Pandora's services, or discontinue certain interactive features for such music, and it might become commercially impractical for us to operate Pandora Premium, Pandora Plus or certain features of our advertising supported service. Any of these occurrences could have an adverse effect on our business, financial condition and results of operations.

Several of these direct licenses also include provisions related to the terms of those agreements relative to other content licensing arrangements, which are commonly referred to as "most favored nation" clauses. These provisions have caused, and may in the future cause, our payments under those agreements to escalate substantially. In addition, many record labels, music publishers and performing rights organizations have the right to audit our royalty payments, and audits often result in disputes over whether we have paid the proper amounts. As a result of such audits, we could be required to pay additional amounts, audit fees and interest or penalties, and the amounts involved could adversely affect our business, financial condition and results of operations.

There is no guarantee that these direct licenses will be renewed in the future or that such licenses will be available on the economic terms associated with the current licenses. If we are unable to secure and maintain direct licenses for the rights to provide music on our Pandora services on terms similar to those under our current direct licenses, our content costs could rise and adversely affect our business, financial condition and results of operations.

The rates we must pay for "mechanical rights" to use musical works on our Pandora service have increased substantially and these rates may adversely affect our business.

Pandora has direct licenses with thousands of music publishers. Those licenses provide that the royalty rate for "reproduction rights" or "mechanical rights", which are required to offer the interactive features of our Pandora services, are determined by the rate formula set by the Copyright Royalty Board for the compulsory license made available by Section 115 of the Copyright Act. These royalty rates also apply to Pandora's use of musical works for which we do not have a direct license with the copyright owners.

The Copyright Royalty Board has issued a rate formula for the period from January 1, 2018 through December 31, 2022. Pursuant to that decision, the rate that we expected to pay to music publishers and songwriters for the mechanical rights and performance rights needed in connection with interactive streaming would have increased annually between 2018 and 2022. On August 11, 2020, the United States Court of Appeals for the District of Columbia Circuit concluded that the CRB failed to provide adequate notice of the rate structure it adopted, failed to explain its rejection of a past settlement agreement as a benchmark for going forward, and never identified the source of its asserted authority to substantively redefine a material term of its initial determination. For these reasons, the Court of Appeals overturned the CRB's adopted rate structure and percentage rates and remanded the proceeding to the CRB for further proceedings. The CRB has announced further proceedings to consider and address the Court of Appeals' decision.

Our use of pre-1972 sound recordings on our Pandora service could result in additional costs.

Federal copyright protection previously did not apply to sound recordings created prior to February 15, 1972. The protection of such recordings was instead governed by a patchwork of state statutory and common laws. Copyright owners of pre-1972 sound recordings have brought litigation against Pandora alleging violations of state statutory and common laws arising from the reproduction and public performance of pre-1972 sound recordings.

If Pandora is found liable for the violation of the exclusive rights of any pre-1972 sound recording copyright owners, then we could be subject to liability, the amount of which could be significant.

Failure to protect our intellectual property or actions by third parties to enforce their intellectual property rights could substantially harm our business and operating results.

Development of our systems has depended upon the intellectual property that we have developed, as well as intellectual property licensed from third parties. If the intellectual property that we have developed or use is not adequately protected, others will be permitted to and may duplicate portions of our systems or services without liability. In addition, others may challenge, invalidate, render unenforceable or circumvent our intellectual property rights, patents or existing licenses or we may face significant legal costs in connection with defending and enforcing those intellectual property rights. Some of the know-how and technology we have developed, and plan to develop, is not now, nor will it be, covered by U.S. patents or trade secret protections. Trade secret protection and contractual agreements may not provide adequate protection if there is any unauthorized use or disclosure. The loss of necessary technologies could require us to substitute technologies of lower quality performance standards, at greater cost or on a delayed basis, which could harm us.

Other parties may have patents or pending patent applications, which will later mature into patents or inventions that may block or put limits on our ability to operate our system or license our technologies. We may have to resort to litigation to enforce our rights under license agreements or to determine the scope and validity of other parties' proprietary rights in the subject matter of those licenses. This may be expensive and we may not succeed in any such litigation.

Third parties may assert claims or bring suit against us for patent, trademark or copyright infringement, or for other infringement or misappropriation of intellectual property rights. Any such litigation could be costly, divert our efforts from our business, subject us to significant liabilities to third parties, require us to seek licenses from third parties, block our ability to operate our services or license our technology, or otherwise adversely affect our ability to successfully develop and market our services.

Some of our services and technologies may use "open source" software, which may restrict how we use or distribute our services or require that we release the source code subject to those licenses.

We may incorporate in some products software licensed under "open source" licenses. Open source licenses often require that the source code be made available to the public and that any modifications or derivative works to the open source software continue to be licensed under open source licenses. Few courts have interpreted open source licenses, and the manner in which these licenses may be interpreted and enforced is therefore subject to uncertainty. In the event that portions of our proprietary technology are determined to be subject to an open source license, we may be required to publicly release portions of our source code, be forced to re-engineer all or a portion of our technologies, or otherwise be limited in the licensing of our technologies, each of which could adversely affect our ability to sustain and grow our business.

Rapid technological and industry changes and new entrants could adversely impact our services.

The audio entertainment industry is characterized by rapid technological change, frequent product and feature innovations, changes in customer requirements and expectations, evolving standards and new entrants offering products and services. If we are unable to keep pace with these changes, our business may not succeed. Products using new technologies could make our services less competitive in the marketplace.

Risks Related to our Capital and Ownership Structure

We have a significant amount of indebtedness, and our debt contains certain covenants that restrict our operations.

As of December 31, 2020, we had an aggregate principal amount of approximately $8.5 billion of indebtedness outstanding.

Our indebtedness increases our vulnerability to general adverse economic and industry conditions; requires us to dedicate a portion of our cash flow from operations to payments on indebtedness, reducing the availability of cash flow to fund capital expenditures, marketing and other general corporate activities; limits our ability to borrow additional funds; and may limit our flexibility in planning for, or reacting to, changes in our business and the audio entertainment industry.

In addition, our borrowings under our Senior Secured Revolving Credit Facility carry a variable interest rate based on London Inter-bank Offered Rate ("LIBOR") as a benchmark for establishing the rate of interest. LIBOR is the subject of national, international and other regulatory guidance and proposals for reform. In 2017, the United Kingdom's Financial Conduct Authority the "FCA"), which regulates LIBOR, announced that it intends to phase out LIBOR. On November 30, 2020, ICE Benchmark Administration ("IBA"), the administrator of LIBOR, with the support of the United States Federal Reserve and the FCA, announced plans to consult on ceasing publication of LIBOR on December 31, 2021 for only the one week and two month LIBOR tenors, and on June 30, 2023 for all other LIBOR tenors. While this announcement extends the transition period to June 2023, the United States Federal Reserve concurrently issued a statement advising banks to stop new LIBOR issuances by the end of 2021. In light of these recent announcements, the future of LIBOR at this time is uncertain and any changes in the methods by which LIBOR is determined or regulatory activity related to LIBOR's phaseout could cause LIBOR to perform differently than in the past or cease to exist. The consequences of these developments cannot be entirely predicted, but could include an increase in the cost of our borrowings under the Credit Facility.

We are a "controlled company" within the meaning of the NASDAQ listing rules and, as a result, qualify for, and rely on, exemptions from certain corporate governance requirements.

We are a "controlled company" for the purposes of the NASDAQ Stock Market listing rules. As such, we have elected not to comply with certain NASDAQ corporate governance requirements. Although a majority of our board of directors consists of independent directors, we do not have a compensation committee and nominating and corporate governance committee that consist entirely of independent directors. Accordingly, you may not have the same protections afforded to stockholders of companies that are subject to all of the corporate governance requirements of NASDAQ.

While we currently pay a quarterly cash dividend to holders of our common stock, we may change our dividend policy at any time.

We currently pay a quarterly cash dividend to holders of our common stock, although we have no obligation to do so, and our dividend policy may change at any time without notice to our stockholders. The declaration and payment of dividends is at the discretion of our board of directors in accordance with applicable law after considering various factors, including our financial condition, operating results, current and anticipated cash needs, limitations imposed by our indebtedness, legal requirements and other factors that our board of directors deems relevant.

Our principal stockholder has significant influence, including over actions requiring stockholder approval, and its interests may differ from the interests of other holders of our common stock.

As of December 31, 2020, Liberty Media beneficially owned approximately 76% of Holdings' common stock and has the ability to influence our affairs, policies and operations. One Liberty Media executive, one Liberty Media senior advisor, and one other member of the board of directors of Liberty Media are members of our board of directors. Our board of directors currently has fourteen members. Gregory B. Maffei, the President and Chief Executive Officer of Liberty Media, is the Chairman of Holdings' board of directors. Our board of directors is responsible for, among other things, the appointment of executive management, future issuances of common stock or other securities, the payment of dividends, if any, the incurrence of debt, and the approval of various transactions.

Liberty Media can also determine the outcome of all matters requiring general stockholder approval, including the election of the board of directors and changes to our certificate of incorporation or by-laws. Liberty Media can also cause or prevent a change of control of Holdings and could preclude any unsolicited acquisition of our company. The concentration of ownership could deprive our stockholders of an opportunity to receive a premium for their common stock as part of a sale of our company and might ultimately affect the market price of our common stock. In certain cases, the interests of Liberty Media may not be aligned with the interests of other stockholders of Holdings.

Other Operational Risks

If we are unable to attract and retain qualified personnel, our business could be harmed.

We believe that our success depends on our ability to attract and retain qualified management, sales, technical and other personnel. All of our employees, including our executive officers, are free to terminate their employment with us at any time, and their knowledge of our business may be difficult to replace.

Qualified individuals are in high demand, particularly in the media and technology industries in New York and in the San Francisco Bay Area, where we have substantial operations, and we may incur significant costs to attract and retain employees. If we are unable to attract and retain our key employees, we may not be able to achieve our objectives, and our business could be harmed.

Our facilities could be damaged by natural catastrophes or terrorist activities.

An earthquake, hurricane, tornado, flood, cyber-attack, terrorist attack, civil unrest or other catastrophic event could damage our data centers, studios, terrestrial repeater networks or satellite uplink facilities, interrupt our services and harm our business. We also have significant operations in the San Francisco Bay Area, a region known for seismic activity.

Any damage to the satellites that transmit to our terrestrial repeater networks would likely result in degradation of the affected service for some Sirius XM subscribers and could result in complete loss of Sirius XM satellite service in certain or all areas. Damage to our satellite uplink facilities could result in a complete loss of our Sirius XM satellite service until we could transfer operations to suitable back-up facilities.

The unfavorable outcome of pending or future litigation could have an adverse impact on our operations and financial condition.

We are parties to several legal proceedings arising out of various aspects of our business, including class actions arising out of our marketing practices. The outcome of these proceedings may not be favorable, and one or more unfavorable outcomes could have an adverse impact on our financial condition.

We may be exposed to liabilities that other entertainment service providers would not customarily be subject to.

We design, establish specifications, source or specify parts and components, and manage various aspects of the logistics of the production of satellite radios and our apps. As a result of these activities, we may be exposed to liabilities associated with the design, manufacture and distribution of radios that the providers of an entertainment service would not customarily be subject to, such as liabilities for design defects, patent infringement and compliance with applicable laws, as well as the costs of returned product.

Our business and prospects depend on the strength of our brands.

Maintaining and enhancing our brands is an important part of our strategy to expand our base of subscribers, listeners and advertisers. Our brands may be impaired by a number of factors, including service outages, data privacy and security issues and exploitation of our trademarks by others without permission. Our ability to maintain and enhance our brands also depends in part on our ability to continue to develop and provide an innovative and high-quality entertainment experience, which we may not do successfully.

Special Note About Forward-Looking Statements

We have made various statements in this Annual Report on Form 10-K that may constitute "forward-looking statements" within the meaning of the Private Securities Litigation Reform Act of 1995. Forward-looking statements may also be made in our other reports filed with or furnished to the SEC, in our press releases and in other documents. In addition, from time to time, we, through our management, may make oral forward-looking statements. For example, these forward-looking statements may include, among other things, our statements about our outlook and our future results of operations and financial condition; share repurchase plans; the impact of economic and market conditions; and the impact of recent acquisitions. The words "will likely result," "are expected to," "will continue," "is anticipated," "estimated," "believe," "intend," "plan," "may," "should," "could," "would," "likely," "projection," "outlook" and similar expressions are intended to identify forward-looking statements. Forward-looking statements are subject to risks and uncertainties, including those identified above, which could cause actual results to differ materially from such statements. We caution you that the risk factors described above are not exclusive. There may also be other risks that we are unable to predict at this time that may cause actual results to differ materially from those in forward-looking statements. New factors emerge from time to time, and it is not possible for us to predict which will arise or to assess with any precision the impact of each factor on our business or the extent to which any factor, or combination of factors, may cause actual results to differ materially from those contained in any forward-looking statements. Readers are cautioned not to place undue reliance on these forward-looking statements, which speak only as of the date on which they are made. We undertake no obligation to update publicly or revise any forward-looking statements, except as required by law.

ITEM 1B. ***UNRESOLVED STAFF COMMENTS***

None.

ITEM 2. *PROPERTIES*

Below is a list of the principal properties that we own or lease:

Sirius XM

Location	Purpose	Own/Lease
New York, NY	Corporate headquarters, office facilities and studio/production facilities	Lease
Washington, DC	Office, studio/production facilities and data center	Own
Lawrenceville, NJ	Office and technical/engineering facilities	Lease
Deerfield Beach, FL	Office and technical/engineering facilities	Lease
Farmington Hills, MI	Office and technical/engineering facilities	Lease
Nashville, TN	Studio/production facilities	Lease
Vernon, NJ	Technical/engineering facilities	Own
Ellenwood, GA	Technical/engineering facilities	Lease
Fredericksburg, VA	Warehouse and technical/engineering facilities	Lease
Los Angeles, CA	Office and studio/production facilities	Lease
Irving, TX	Office and engineering facilities/call center	Lease
San Francisco, CA	Office and engineering facilities	Lease

We also lease other small facilities that we use as offices for our advertising sales personnel, studios and warehouse and maintenance space. These facilities are not material to our business or operations.

In addition, we lease or license space at approximately 540 locations for use in connection with the terrestrial repeater networks that support our satellite radio services. In general, these leases and licenses are for space on building rooftops and communications towers. None of these individual locations are material to our business or operations.

Pandora

Location	Purpose	Own/Lease
Oakland, CA	Office and technical/engineering facilities	Lease
New York, NY	Office, sales and studio/production facilities	Lease
Atlanta, GA	Office, sales and technical/engineering facilities	Lease
Santa Monica, CA	Office and sales facilities	Lease

We also lease other small facilities that we use as offices for our sales and office personnel. These facilities are not material to our business or operations.

ITEM 3. *LEGAL PROCEEDINGS*

For a discussion of our "Legal Proceedings," refer to Note 17 in the notes to our audited consolidated financial statements of this Annual Report on Form 10-K.

ITEM 4. *MINE SAFETY DISCLOSURES*

Not applicable.

PART II

ITEM 5. *MARKET FOR REGISTRANT'S COMMON EQUITY, RELATED STOCKHOLDER MATTERS AND ISSUER PURCHASES OF EQUITY SECURITIES*

Our common stock is traded on the NASDAQ Global Select Market under the symbol "SIRI." On January 29, 2021, there were approximately 6,795 record holders of our common stock.

Issuer Purchases of Equity Securities

As of December 31, 2020, our board of directors had authorized us to repurchase an aggregate of $16.0 billion of our common stock and have not establish an end date for this stock repurchase program. Shares of common stock may be purchased from time to time on the open market, pursuant to pre-set trading plans meeting the requirements of Rule 10b5-1 under the Exchange Act, in privately negotiated transactions, including transactions with Liberty Media and its affiliates, or otherwise. As of December 31, 2020, our cumulative repurchases since December 2012 under our stock repurchase program totaled 3.3 billion shares for approximately $14.4 billion, and approximately $1.6 billion remained available under our existing $16.0 billion stock repurchase program. The size and timing of our repurchases will be based on a number of factors, including price and business and market conditions.

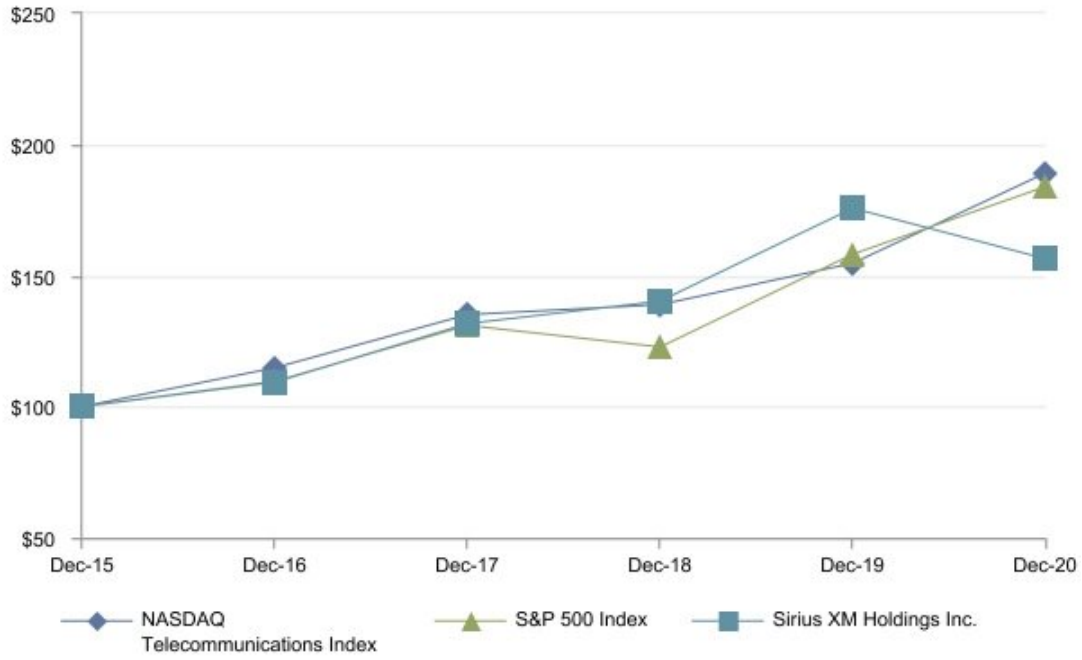
The following table provides information about our purchases of equity securities registered pursuant to Section 12 of the Exchange Act during the quarter ended December 31, 2020:

Period	Total Number of Shares Purchased	Average Price Paid Per Share (a)	Total Number of Shares Purchased as Part of Publicly Announced Plans or Programs	Approximate Dollar Value of Shares that May Yet Be Purchased Under the Plans or Programs (a)
October 1, 2020 - October 31, 2020	45,000,000	$ 5.81	45,000,000	$ 2,011,053,907
November 1, 2020 - November 30, 2020	33,500,000	$ 6.23	33,500,000	$ 1,802,510,457
December 1, 2020 - December 31, 2020	32,868,437	$ 6.40	32,868,437	$ 1,592,273,446
Total	111,368,437	$ 6.11	111,368,437	

(a) These amounts include fees and commissions associated with the shares repurchased. All of these repurchases were made pursuant to our share repurchase program.

COMPARISON OF CUMULATIVE TOTAL RETURNS

Set forth below is a graph comparing the cumulative performance of our common stock with the Standard & Poor's Composite-500 Stock Index, or the S&P 500, and the NASDAQ Telecommunications Index from December 31, 2015 to December 31, 2020. The graph assumes that $100 was invested on December 31, 2015 in each of our common stock, the S&P 500 and the NASDAQ Telecommunications Index. In November 2016, we paid our first quarterly dividend. Our board of directors expects to declare regular quarterly dividends.



Stockholder Return Performance Table

	NASDAQ Telecommunications Index	S&P 500 Index	Sirius XM Holdings Inc.
December 31, 2015	$ 100.00	$ 100.00	$ 100.00
December 31, 2016	$ 114.87	$ 109.54	$ 109.34
December 31, 2017	$ 134.90	$ 130.81	$ 131.70
December 31, 2018	$ 138.98	$ 122.65	$ 140.29
December 31, 2019	$ 154.80	$ 158.07	$ 175.68
December 31, 2020	$ 188.92	$ 183.77	$ 156.51

Equity Compensation Plan Information

Plan Category *(shares in millions)*	Number of Securities to be Issued upon Exercise of Outstanding Options, Warrants and Rights[1]	Weighted-Average Exercise Price of Outstanding Options, Warrants and Rights[2]	Number of Securities Remaining Available for Future Issuance under Equity Compensation Plans
Equity compensation plans approved by security holders	259	$ 4.73	160
Equity compensation plans not approved by security holders	—	—	—
Total	259	$ 4.73	160

(1) In addition to shares issuable upon exercise of stock options, amount also includes approximately 75 shares underlying restricted stock units, including performance-based restricted stock units ("PRSUs") and dividend equivalents thereon. The number of shares to be issued in respect of PRSUs and dividend equivalents thereon have been calculated based on the assumption that the maximum levels of performance applicable to the PRSUs will be achieved.

(2) The weighted-average exercise price of outstanding options, warrants and rights relates solely to stock options, which are the only currently outstanding exercisable security.

ITEM 6. ***SELECTED FINANCIAL DATA***

The operating and balance sheet data included in the following selected financial data has been derived from our audited consolidated financial statements. The data below includes Pandora's results for the year ended December 31, 2020 and for the period from February 1, 2019 (the date of the Pandora acquisition) to December 31, 2019. This selected financial data should be read in conjunction with the audited Consolidated Financial Statements and related notes thereto included in Item 8 of this Annual Report on Form 10-K and "Management's Discussion and Analysis of Financial Condition and Results of Operations" included in Item 7 of this Annual Report on Form 10-K.

	As of and for the Years Ended December 31,				
(in millions, except per share data)	**2020**	**2019**	**2018**	**2017**	**2016**
Statements of Comprehensive Income Data:					
Total revenue	$ 8,040	$ 7,794	$ 5,771	$ 5,425	$ 5,017
Net income [1]	$ 131	$ 914	$ 1,176	$ 648	$ 746
Net income per share - basic [1, 2]	$ 0.03	$ 0.20	$ 0.26	$ 0.14	$ 0.15
Net income per share - diluted [1, 2]	$ 0.03	$ 0.20	$ 0.26	$ 0.14	$ 0.15
Weighted average common shares outstanding - basic	4,330	4,501	4,462	4,638	4,917
Weighted average common shares outstanding - diluted	4,429	4,616	4,561	4,724	4,965
Cash dividends declared per share	$ 0.05457	$ 0.04961	$ 0.0451	$ 0.0410	$ 0.0100
Balance Sheet Data:					
Cash and cash equivalents	$ 71	$ 106	$ 54	$ 69	$ 214
Restricted investments	$ 12	$ 14	$ 11	$ 10	$ 10
Total assets [2]	$ 10,333	$ 11,149	$ 8,173	$ 8,329	$ 8,004
Long-term debt, net of current portion	$ 8,499	$ 7,842	$ 6,885	$ 6,741	$ 5,843
Stockholders' (deficit) equity [3]	$ (2,285)	$ (736)	$ (1,817)	$ (1,524)	$ (792)

(1) During the year ended December 31, 2020, we recorded a non-cash impairment of goodwill and indefinite-lived assets of $956 and $20, respectively. Refer to Note 9 to our consolidated financial statements for more information.

(2) The 2017 net income per basic and diluted share includes the impact of $185 in income tax expense, or a decrease of approximately $0.04 per share, due to the reduction in our net Deferred tax asset balance as a result of the Tax Cut and Jobs Act signed into law on December 22, 2017.

(3) For the year ended December 31, 2016, we recorded $294 as an increase to our Deferred tax assets and decrease to our Accumulated deficit as a result of the adoption of Accounting Standards Update 2016-09, *Compensation-Stock Compensation (Topic 718)*.

ITEM 7. *MANAGEMENT'S DISCUSSION AND ANALYSIS OF FINANCIAL CONDITION AND RESULTS OF OPERATIONS*

This Annual Report on Form 10-K contains forward-looking statements within the meaning of the Private Securities Litigation Reform Act of 1995. Actual results and the timing of events could differ materially from those projected in forward-looking statements due to a number of factors, including those described under "Item 1A - Risk Factors" and elsewhere in this Annual Report on Form 10-K. See "Special Note About Forward-Looking Statements."

All amounts referenced in this Item 7 are in millions, except subscriber amounts are in thousands and per subscriber and per installation amounts are in ones, unless otherwise stated.

The following discussion and analysis of our financial condition and results of operations should be read in conjunction with our audited consolidated financial statements and related notes included elsewhere in this Annual Report on Form 10-K.

Executive Summary

We operate two complementary audio entertainment businesses - our Sirius XM business and our Pandora business.

Sirius XM

Our Sirius XM business features music, sports, entertainment, comedy, talk, news, traffic and weather channels and other content, as well as podcasts and infotainment services, in the United States on a subscription fee basis. Sirius XM's premier content bundles include live, curated and certain exclusive and on demand programming. The Sirius XM service is distributed through our two proprietary satellite radio systems and streamed via applications for mobile devices, home devices and other consumer electronic equipment. Satellite radios are primarily distributed through automakers, retailers and our website. Our Sirius XM service is also available through our user interface, which we call "360L," that combines our satellite and streaming services into a single, cohesive in-vehicle entertainment experience.

The primary source of revenue from our Sirius XM business is subscription fees, with most of our customers subscribing to monthly, quarterly, semi-annual or annual plans. We also derive revenue from advertising on select non-music channels, direct sales of our satellite radios and accessories, and other ancillary services. As of December 31, 2020, our Sirius XM business had approximately 34.7 million subscribers.

In addition to our audio entertainment businesses, we provide connected vehicle services to several automakers. These services are designed to enhance the safety, security and driving experience of consumers. We also offer a suite of data services that includes graphical weather, fuel prices, sports schedules and scores and movie listings, a traffic information service that includes information as to road closings, traffic flow and incident data to consumers with compatible in-vehicle navigation systems, and real-time weather services in vehicles, boats and planes.

In May 2020, we terminated the Automatic Labs Inc. ("Automatic") service, which was part of our connected services business. Automatic operated a service for consumers and auto dealers and offered an install-it-yourself adapter and mobile application, which transformed vehicles into connected vehicles. During the year ended December 31, 2020, we recorded $24 of restructuring expenses in our consolidated statements of comprehensive income related to this termination of the service. We did not record any restructuring expenses during the years ended December 31, 2019 and 2018.

Sirius XM also holds a 70% equity interest and 33% voting interest in Sirius XM Canada Holdings Inc. ("Sirius XM Canada"). Sirius XM Canada's subscribers are not included in our subscriber count or subscriber-based operating metrics.

Pandora

Our Pandora business operates a music, comedy and podcast streaming discovery platform, offering a personalized experience for each listener wherever and whenever they want to listen, whether through mobile devices, car speakers or connected devices. Pandora enables listeners to create personalized stations and playlists, discover new content, hear artist- and expert-curated playlists, podcasts and select Sirius XM content as well as search and play songs and albums on-demand. Pandora is available as (1) an ad-supported radio service, (2) a radio subscription service (Pandora Plus) and (3) an on-demand subscription service (Pandora Premium). As of December 31, 2020, Pandora had approximately 6.3 million subscribers.

The majority of revenue from our Pandora business is generated from advertising on our Pandora ad-supported radio service. We also derive subscription revenue from our Pandora Plus and Pandora Premium subscribers.

Our Pandora business also sells advertising on audio platforms and in podcasts unaffiliated with us. Pandora is the exclusive US ad sales representative for SoundCloud. Through this arrangement Pandora offers advertisers the ability to execute campaigns in the US across the Pandora and SoundCloud listening platforms. We also have arrangements to serve as the ad sales representative for certain podcasts, such as the podcasts of NBC News. In addition, through AdsWizz, Pandora provides a comprehensive digital audio advertising technology platform, which connects audio publishers and advertisers with a variety of ad insertion, campaign trafficking, yield optimization, programmatic buying, marketplace and podcast monetization solutions. As of December 31, 2020, our Pandora business had approximately 58.9 million monthly active users.

In October 2020, Sirius XM acquired the assets of Stitcher from The E.W. Scripps Company and certain of its subsidiaries for a total consideration of $296, which includes $272 in cash and $30 related to contingent consideration, partially offset by working capital adjustments of $6. The acquisition of Stitcher, in conjunction with Simplecast, creates a full-service platform for podcast creators, publishers and advertisers. Refer to Note 3 to our consolidated financial statements for more information on this acquisition.

In June 2020, Sirius XM acquired Simplecast for $28 in cash. Simplecast is a podcast management and analytics platform. Refer to Note 3 to our consolidated financial statements for more information on this acquisition.

In February 2020, Sirius XM completed a $75 investment in SoundCloud. SoundCloud is the world's largest open audio platform, with a connected community of creators, listeners, and curators. SoundCloud's platform enables its users to upload, promote, share and create audio entertainment. The minority investment complements the existing ad sales relationship between SoundCloud and Pandora.

Liberty Media

As of December 31, 2020, Liberty Media beneficially owned, directly and indirectly, approximately 76% of the outstanding shares of our common stock. As a result, we are a "controlled company" for the purposes of the NASDAQ corporate governance requirements.

Results of Operations

Actual Results

Set forth below are our results of operations for the year ended December 31, 2020 compared with the year ended December 31, 2019 and for the year ended December 31, 2019 compared with the year ended December 31, 2018. The discussion of our results of operations for the year ended December 31, 2020 includes the financial results of Pandora for the entire period, while the results of operations for the year ended December 31, 2019 includes the financial results of Pandora from the date of the Pandora Acquisition, February 1, 2019. The inclusion of Pandora's results in the year ended December 31, 2020 for the entire period may render direct comparisons with results for prior year period less meaningful. The results of operations are presented for each of our reporting segments for revenue and cost of services and on a consolidated basis for all other items.

	For the Years Ended December 31,			2020 vs 2019 Change		2019 vs 2018 Change	
	2020	2019	2018	Amount	%	Amount	%
Revenue							
Sirius XM:							
Subscriber revenue	$ 5,857	$ 5,644	$ 5,264	$ 213	4 %	$ 380	7 %
Advertising revenue	157	205	188	(48)	(23)%	17	9 %
Equipment revenue	173	173	155	—	— %	18	12 %
Other revenue	155	165	164	(10)	(6)%	1	1 %
Total Sirius XM revenue	6,342	6,187	5,771	155	3 %	416	7 %
Pandora:							
Subscriber revenue	515	476	—	39	8 %	476	nm
Advertising revenue	1,183	1,131	—	52	5 %	1,131	nm
Total Pandora revenue	1,698	1,607	—	91	6 %	1,607	nm
Total consolidated revenue	8,040	7,794	5,771	246	3 %	2,023	35 %
Cost of services							
Sirius XM:							
Revenue share and royalties	1,484	1,431	1,394	53	4 %	37	3 %
Programming and content	449	444	406	5	1 %	38	9 %
Customer service and billing	394	398	382	(4)	(1)%	16	4 %
Transmission	123	112	96	11	10 %	16	17 %
Cost of equipment	19	29	31	(10)	(34)%	(2)	(6)%
Total Sirius XM cost of services	2,469	2,414	2,309	55	2 %	105	5 %
Pandora:							
Revenue share and royalties	937	860	—	77	9 %	860	nm
Programming and content	32	18	—	14	78 %	18	nm
Customer service and billing	87	77	—	10	13 %	77	nm
Transmission	54	58	—	(4)	(7)%	58	nm
Total Pandora cost of services	1,110	1,013	—	97	10 %	1,013	nm
Total consolidated cost of services	3,579	3,427	2,309	152	4 %	1,118	48 %
Subscriber acquisition costs	362	427	470	(65)	(15)%	(43)	(9)%
Sales and marketing	957	937	484	20	2 %	453	94 %
Engineering, design and development	263	280	123	(17)	(6)%	157	128 %
General and administrative	511	524	354	(13)	(2)%	170	48 %
Depreciation and amortization	506	468	301	38	8 %	167	55 %
Acquisition and restructuring costs	28	84	3	(56)	(67)%	81	nm
Impairment charges	976	—	—	976	nm	—	nm
Total operating expenses	7,182	6,147	4,044	1,035	17 %	2,103	52 %
Income from operations	858	1,647	1,727	(789)	(48)%	(80)	(5)%
Other (expense) income:							
Interest expense	(394)	(390)	(350)	(4)	(1)%	(40)	(11)%
Loss on extinguishment of debt	(40)	(57)	—	17	30 %	(57)	nm
Other income (expense)	6	(3)	44	9	300 %	(47)	(107)%
Total other (expense) income	(428)	(450)	(306)	22	5 %	(144)	(47)%
Income before income taxes	430	1,197	1,421	(767)	(64)%	(224)	(16)%
Income tax expense	(299)	(283)	(245)	(16)	(6)%	(38)	(16)%
Net income	$ 131	$ 914	$ 1,176	$ (783)	(86)%	$ (262)	(22)%

nm - not meaningful

Sirius XM Revenue

Refer to page 42 for our discussion on Sirius XM revenue.

Pandora Revenue

The year ended December 31, 2020 includes Pandora's revenue for the entire period while the year ended December 31, 2019 includes Pandora's revenue from the acquisition date, February 1, 2019. Refer to page 43 for our discussion on Pandora revenue.

Sirius XM Cost of Services

Refer to page 43 for our discussion on Sirius XM cost of services.

Pandora Cost of Services

The year ended December 31, 2020 includes Pandora's cost of services for the entire period while the year ended December 31, 2019 includes Pandora's cost of services from the acquisition date, February 1, 2019. Refer to page 45 for our discussion on Pandora cost of services.

Operating Costs

Subscriber Acquisition Costs are costs associated with our satellite radio service and include hardware subsidies paid to radio manufacturers, distributors and automakers; subsidies paid for chipsets and certain other components used in manufacturing radios; device royalties for certain radios and chipsets; product warranty obligations; and freight. The majority of subscriber acquisition costs are incurred and expensed in advance of acquiring a subscriber. Subscriber acquisition costs do not include advertising costs, marketing, loyalty payments to distributors and dealers of satellite radios or revenue share payments to automakers and retailers of satellite radios.

- *2020 vs. 2019*: For the years ended December 31, 2020 and 2019, subscriber acquisition costs were $362 and $427, respectively, a decrease of 15%, or $65, and decreased as a percentage of total revenue. The decrease was driven by a decline in OEM installations as a result of the COVID-19 pandemic as well as lower hardware subsidies as certain subsidy rates decreased.

- *2019 vs. 2018*: For the years ended December 31, 2019 and 2018, subscriber acquisition costs were $427 and $470, respectively, a decrease of 9%, or $43, and decreased as a percentage of total revenue. The decrease was driven by reductions to OEM hardware subsidy rates, lower subsidized costs related to the transition of chipsets, and a decrease in the volume of satellite radio installations.

We expect subscriber acquisition costs to fluctuate with OEM installations; however, the subsidized chipsets cost is expected to decline as we transition to a new generation of chipsets. We intend to continue to offer subsidies and other incentives to induce OEMs to include our technology in their vehicles.

Sales and Marketing includes costs for marketing, advertising, media and production, including promotional events and sponsorships; cooperative and artist marketing; and personnel related costs including salaries, commissions, and sales support. Marketing costs include expenses related to direct mail, outbound telemarketing, email communications, social media, television and digital performance media.

- *2020 vs. 2019*: For the years ended December 31, 2020 and 2019, sales and marketing expenses were $957 and $937, respectively, an increase of 2%, or $20, and decreased as a percentage of total revenue. The increase was primarily due to the inclusion of Pandora for a full twelve months in 2020, and additional subscriber communications and acquisition campaigns; partially offset by lower travel, entertainment and personnel-related costs.

- *2019 vs. 2018*: For the years ended December 31, 2019 and 2018, sales and marketing expenses were $937 and $484, respectively, an increase of 94%, or $453, and increased as a percentage of total revenue. The increase was primarily due to the inclusion of Pandora, and additional subscriber communications and acquisition campaigns.

We anticipate that sales and marketing expenses will increase with growth in our trial subscriber base, as we expand programs to retain our existing subscribers, win back former subscribers, attract new subscribers and listeners, and as we grow advertising revenue.

Engineering, Design and Development consists primarily of compensation and related costs to develop chipsets and new products and services, including streaming and connected vehicle services, research and development for broadcast information systems and the design and development costs to incorporate Sirius XM radios into new vehicles manufactured by automakers.

- *2020 vs. 2019*: For the years ended December 31, 2020 and 2019, engineering, design and development expenses were $263 and $280, respectively, a decrease of 6%, or $17, and decreased as a percentage of total revenue. The decrease was driven primarily by lower personnel-related costs, partially offset by the inclusion of Pandora for a full twelve months in 2020.

- *2019 vs. 2018*: For the years ended December 31, 2019 and 2018, engineering, design and development expenses were $280 and $123, respectively, an increase of 128%, or $157, and increased as a percentage of total revenue. The increase was driven primarily by the inclusion of Pandora.

We expect engineering, design and development expenses to increase in future periods as we continue to develop our infrastructure, products and services.

General and Administrative primarily consists of compensation and related costs for personnel and facilities, and include costs related to our finance, legal, human resources and information technologies departments.

- *2020 vs. 2019*: For the years ended December 31, 2020 and 2019, general and administrative expenses were $511 and $524, respectively, a decrease of 2%, or $13, and decreased as a percentage of total revenue. The decrease was driven by a one-time $25 legal settlement associated with Do-Not-Call litigation recorded in the first quarter of 2019, lower personnel-related costs, the closure of a sales and use tax audit in the second quarter of 2020, and lower travel and entertainment costs, partially offset by the inclusion of Pandora for a full twelve months in 2020, a $25 million contribution to a donor advised fund that will be the source of our future charitable donations, and higher legal costs.

- *2019 vs. 2018*: For the years ended December 31, 2019 and 2018, general and administrative expenses were $524 and $354, respectively, an increase of 48%, or $170, and increased as a percentage of total revenue. The increase was driven by the inclusion of Pandora and by a $25 legal settlement associated with Do-Not-Call litigation.

We expect our general and administrative expenses to remain relatively flat.

Depreciation and Amortization represents the recognition in earnings of the cost of assets used in operations, including our satellite constellations, property, equipment and intangible assets, over their estimated service lives.

- *2020 vs. 2019*: For the years ended December 31, 2020 and 2019, depreciation and amortization expense was $506 and $468, respectively, an increase of 8%, or $38, and increased as a percentage of total revenue. The increase was driven by additional assets placed in-service and the inclusion of Pandora for a full twelve months in 2020.

- *2019 vs. 2018*: For the years ended December 31, 2019 and 2018, depreciation and amortization expense was $468 and $301, respectively, an increase of 55%, or $167, and increased as a percentage of total revenue. The increase was driven by the amortization of definite life intangibles resulting from the Pandora Acquisition and higher depreciation costs related to additional assets placed in-service.

Acquisition and Restructuring Costs represents expenses associated with the acquisitions of Pandora, Simplecast and Stitcher and restructuring costs.

- *2020 vs. 2019*: For the years ended December 31, 2020 and 2019, acquisition and restructuring costs were $28 and $84, respectively.

- 2019 vs. 2018: For the years ended December 31, 2019 and 2018, acquisition and other related costs were $84 and $3, respectively.

Impairment Charges represents the amount by which the carrying amount of an asset exceeds the asset's fair value.

- *2020 vs. 2019*: For the year ended December 31, 2020, impairment charge was $976. We recorded a goodwill impairment charge of $956 during the year ended December 31, 2020 to reflect the carrying amount of the Pandora goodwill and an impairment charge of $20 to write down the carrying value of our Pandora trademark. We did not record an impairment charge in 2019 or 2018.

Other Income (Expense)

Interest Expense includes interest on outstanding debt.

- *2020 vs. 2019*: For the years ended December 31, 2020 and 2019, interest expense was $394 and $390, respectively, an increase of 1%, or $4. The increase was primarily driven by higher average debt due to the issuances of Sirius XM's 5.500% Senior Notes due 2029, 4.625% Senior Notes due 2024 in 2019, and 4.125% Senior Notes due 2030 in 2020; partially offset by the redemption of Sirius XM's 6.00% Senior Notes due 2024, redemption of the Pandora convertible notes in 2019, a lower average outstanding balance under the Credit Facility, and lower interest rates.

- *2019 vs. 2018*: For the years ended December 31, 2019 and 2018, interest expense was $390 and $350, respectively, an increase of 11%, or $40. The increase was primarily driven by higher average debt due to the issuances of Sirius XM's 5.500% Senior Notes due 2029 and 4.625% Senior Notes due 2024 as well as the inclusion of Pandora debt, partially offset by the redemption of Sirius XM's 6.00% Senior Notes due 2024, lower interest rates and an increase in capitalized interest associated with construction of new satellites.

Loss on Extinguishment of Debt includes losses incurred as a result of the redemption of certain debt.

- *2020 vs. 2019*: For the years ended December 31, 2020 and 2019, loss on extinguishment of debt was $40 and $57, respectively. The loss on extinguishment of debt recorded in 2020 was due to the redemption of $500 principal amount of Sirius XM's 4.625% Senior Notes due 2023 and $1,000 principal amount of Sirius XM's 5.375% Senior Notes due 2025. The loss recorded in 2019 was due to the redemption of $1,500 in principal amount of Sirius XM's 6.00% Senior Notes due 2024 and the repurchase of $151 in principal amount of Pandora's 1.75% Convertible Senior Notes due 2020.

- *2019 vs. 2018*: For the years ended December 31, 2019 and 2018, loss on extinguishment of debt was $57 and $0, respectively. During the year ended December 31, 2019, we recorded losses due to the redemption of $1,500 in principal amount of Sirius XM's 6.00% Senior Notes due 2024 and the repurchase of $151 in principal amount of Pandora's 1.75% Convertible Senior Notes due 2020. There was no loss on extinguishment of debt in 2018.

Other Income (Expense) primarily includes realized and unrealized gains and losses from our Deferred Compensation Plan and other investments, interest and dividend income, our share of the income or loss from equity investments in Sirius XM Canada and SoundCloud, and transaction costs related to non-operating investments.

- *2020 vs. 2019*: For the years ended December 31, 2020 and 2019, other income (expense) was $6 and $(3), respectively. Other income for the year ended December 31, 2020 was driven by a one-time lawsuit settlement of $7. Other expense for the year ended December 31, 2019 was driven by losses on other investments of $21; partially offset by interest earned on our loan to Sirius XM Canada of $10, trading gains associated with the investments held for our Deferred Compensation Plan of $4 and interest income of $3.

- *2019 vs. 2018*: For the years ended December 31, 2019 and 2018, other (expense) income was $(3) and $44, respectively. Other expense for the year ended December 31, 2019 was driven by losses on other investments of $21; partially offset by interest earned on our loan to Sirius XM Canada of $10, trading gains associated with the investments held for our Deferred Compensation Plan of $4 and interest income of $3. Other income for the year ended December 31, 2018 was driven by unrealized gains of $43 from a fair value adjustment of our investment in Pandora, and interest earned on our loan to Sirius XM Canada of $10, partially offset by losses on other investments of $10.

Income Taxes

Income Tax Expense includes the change in our deferred tax assets, current federal and state tax expenses, and foreign withholding taxes.

- *2020 vs. 2019*: For the years ended December 31, 2020 and 2019, income tax expense was $299 and $283, respectively, and our effective tax rate was 69.5% and 23.6%, respectively.

  Our effective tax rate of 69.5% for the year ended December 31, 2020 was primarily impacted by the nondeductible Pandora goodwill impairment charge, partially offset by the recognition of excess tax benefits related to share-based compensation, a benefit related to state and federal research and development and certain other credits and a worthless stock deduction associated with the termination of the Automatic service. Our effective tax rate of 23.6% for the year ended December 31, 2019 was primarily impacted by the recognition of excess tax benefits related to share-based compensation and benefits related to state and federal research and development and certain other credits, partially offset by the impact of nondeductible compensation.

- *2019 vs. 2018*: For the years ended December 31, 2019 and 2018, income tax expense was $283 and $245, respectively, and our effective tax rate was 23.6% and 17.2%, respectively.

  Our effective tax rate of 23.6% for the year ended December 31, 2019 was primarily impacted by the recognition of excess tax benefits related to share-based compensation and benefits related to state and federal research and development and certain other credits, partially offset by the impact of nondeductible compensation. Our effective tax rate of 17.2% for the year ended December 31, 2018 was primarily impacted by the recognition of excess tax benefits related to share based compensation and a benefit related to state and federal research and development credits.

Unaudited Pro Forma Results

Set forth below are our pro forma results of operations for the year ended December 31, 2020 compared with the year ended December 31, 2019 and for the year ended December 31, 2019 compared with the year ended December 31, 2018. These pro forma results are based on estimates and assumptions, which we believe are reasonable. They are not the results that would have been realized had the Pandora Acquisition actually occurred on January 1, 2018 and are not indicative of our consolidated results of operations in future periods. The pro forma results primarily include adjustments related to amortization of acquired intangible assets, depreciation of property and equipment, acquisition costs, fair value gain or loss on the Pandora investment and associated tax impacts. Pro forma adjustments are not included for the acquisitions of Simplecast and Stitcher. Please refer to the Footnotes to Results of Operations (pages 49 through 53) following our discussion of results of operations.

	For the Years Ended December 31,			2020 vs 2019 Change		2019 vs 2018 Change	
	2020	2019	2018	Amount	%	Amount	%
Revenue	(Pro Forma)	(Pro Forma)	(Pro Forma)				
Sirius XM:							
Subscriber revenue	$ 5,857	$ 5,644	$ 5,264	$ 213	4 %	$ 380	7 %
Advertising revenue	157	205	188	(48)	(23)%	17	9 %
Equipment revenue	173	173	155	—	— %	18	12 %
Other revenue	161	172	171	(11)	(6)%	1	1 %
Total Sirius XM revenue	6,348	6,194	5,778	154	2 %	416	7 %
Pandora:							
Subscriber revenue	515	527	478	(12)	(2)%	49	10 %
Advertising revenue	1,183	1,200	1,092	(17)	(1)%	108	10 %
Total Pandora revenue	1,698	1,727	1,570	(29)	(2)%	157	10 %
Total consolidated revenue	8,046	7,921	7,348	125	2 %	573	8 %
Cost of services							
Sirius XM:							
Revenue share and royalties	1,484	1,431	1,394	53	4 %	37	3 %
Programming and content	449	444	406	5	1 %	38	9 %
Customer service and billing	394	398	382	(4)	(1)%	16	4 %
Transmission	123	112	96	11	10 %	16	17 %
Cost of equipment	19	29	31	(10)	(34)%	(2)	(6)%
Total Sirius XM cost of services	2,469	2,414	2,309	55	2 %	105	5 %
Pandora:							
Revenue share and royalties	943	945	929	(2)	— %	16	2 %
Programming and content	32	18	11	14	78 %	7	64 %
Customer service and billing	87	85	95	2	2 %	(10)	(11)%
Transmission	54	63	50	(9)	(14)%	13	26 %
Total Pandora cost of services	1,116	1,111	1,085	5	— %	26	2 %
Total consolidated cost of services	3,585	3,525	3,394	60	2 %	131	4 %
Subscriber acquisition costs	362	427	470	(65)	(15)%	(43)	(9)%
Sales and marketing	957	973	883	(16)	(2)%	90	10 %
Engineering, design and development	263	294	266	(31)	(11)%	28	11 %
General and administrative	511	540	517	(29)	(5)%	23	4 %
Depreciation and amortization	506	483	465	23	5 %	18	4 %
Acquisition and restructuring costs	28	—	—	28	nm	—	nm
Impairment charges	976	—	—	976	nm	—	nm
Total operating expenses	7,188	6,242	5,995	946	15 %	247	4 %
Income from operations	858	1,679	1,353	(821)	(49)%	326	24 %
Other (expense) income:							
Interest expense	(394)	(392)	(377)	(2)	(1)%	(15)	(4)%
Loss on extinguishment of debt	(40)	(57)	(17)	17	30 %	(40)	(235)%
Other income (expense)	6	(2)	8	8	400 %	(10)	(125)%
Total other (expense) income	(428)	(451)	(386)	23	5 %	(65)	(17)%
Income before income taxes	430	1,228	967	(798)	(65)%	261	27 %
Income tax expense	(299)	(290)	(123)	(9)	(3)%	(167)	(136)%
Net income	$ 131	$ 938	$ 844	$ (807)	(86)%	$ 94	11 %
Adjusted EBITDA	$ 2,575	$ 2,427	$ 2,131	$ 148	6 %	$ 296	14 %

nm - not meaningful

Sirius XM Revenue

Sirius XM Subscriber Revenue includes fees charged for self-pay and paid promotional subscriptions, U.S. Music Royalty Fees and other ancillary fees.

- *2020 vs. 2019*: For the years ended December 31, 2020 and 2019, subscriber revenue was $5,857 and $5,644, respectively, an increase of 4%, or $213. The increase was primarily driven by higher self-pay revenue as a result of increases in certain subscription plans and higher U.S. Music Royalty Fees due to a higher music royalty rate, partially offset by lower paid promotional revenue.

- *2019 vs. 2018*: For the years ended December 31, 2019 and 2018, subscriber revenue was $5,644 and $5,264, respectively, an increase of 7%, or $380. The increase was primarily driven by higher U.S. Music Royalty Fees due to a higher music royalty rate, higher self-pay subscription revenue as a result of a 3% increase in the daily weighted average number of subscribers and higher revenue from our connected vehicle services.

We expect subscriber revenues to increase based on the growth of our subscriber base, increases in the average price charged and the sale of additional services to subscribers.

Sirius XM Advertising Revenue includes the sale of advertising on Sirius XM's non-music channels.

- *2020 vs. 2019*: For the years ended December 31, 2020 and 2019, advertising revenue was $157 and $205, respectively, a decrease of 23%, or $48. The decrease was primarily due to lower advertising as a result of the impact of the COVID-19 pandemic.

- *2019 vs. 2018*: For the years ended December 31, 2019 and 2018, advertising revenue was $205 and $188, respectively, an increase of 9%, or $17. The increase was primarily due to a greater number of advertising spots sold and transmitted as well as increases in rates charged per spot.

We expect our Sirius XM advertising revenue to grow as we continue our recovery to pre-COVID-19 levels.

Sirius XM Equipment Revenue includes revenue and royalties from the sale of satellite radios, components and accessories.

- *2020 vs. 2019*: For the years ended December 31, 2020 and 2019, equipment revenue was $173 and $173, respectively. Increased OEM royalty revenue was offset by lower direct sales to consumers and loss of revenue resulting from the termination of the Automatic service.

- *2019 vs. 2018*: For the years ended December 31, 2019 and 2018, equipment revenue was $173 and $155, respectively, an increase of 12%, or $18. The increase was driven by an increase in royalty revenue due to our transition to a new generation of chipsets.

We expect equipment revenue to increase as royalty revenue associated with certain new chipsets increases.

Sirius XM Other Revenue includes service and advisory revenue from Sirius XM Canada, revenue from our connected vehicle services, and ancillary revenues.

- *2020 vs. 2019*: For the years ended December 31, 2020 and 2019, other revenue was $161 and $172, respectively, a decrease of 6%, or $11. The decrease was due to lower revenue from our connected vehicle services, rental car revenue and royalty revenue from Sirius XM Canada.

- *2019 vs. 2018*: For the years ended December 31, 2019 and 2018, other revenue was $172 and $171, respectively, an increase of 1%, or $1. The increase was primarily driven by higher royalty revenue generated from Sirius XM Canada, partially offset by a decrease in data usage revenue generated from our connected vehicle services.

We expect other revenue to decrease as royalties from Sirius XM Canada, rental car revenue and revenue generated from our connected vehicle services decline.

Pandora Revenue

Pandora Subscriber Revenue includes fees charged for Pandora Plus, Pandora Premium, Stitcher and Simplecast subscriptions.

- *2020 vs. 2019*: For the years ended December 31, 2020 and 2019, Pandora subscriber revenue was $515 and $527, respectively, a decrease of 2%, or $12. The decrease was primarily due to the expiration of the one-year promotional subscriptions generated through an agreement with T-Mobile.

- *2019 vs. 2018*: For the years ended December 31, 2019 and 2018, Pandora subscriber revenue was $527 and $478, respectively, an increase of 10%, or $49. The increase was primarily due to a greater weighted average number of subscribers and an increase in the average price per paid subscriber due to the growth of Pandora Premium.

We expect Pandora subscriber revenues to increase with growth of our Pandora andStitcher subscriber base.

Pandora Advertising Revenue is generated primarily from audio, display and video advertising from on-platform and off-platform advertising.

- *2020 vs. 2019*: For the years ended December 31, 2020 and 2019, Pandora advertising revenue was $1,183 and $1,200, respectively, a decrease of 1%, or $17. The decrease was primarily due to lower advertising as a result of the impact of the COVID-19 pandemic and a decrease in advertising revenue per thousand hours, partially offset by growth in our off-platform advertising and the inclusion of revenue from Stitcher.

- *2019 vs. 2018*: For the years ended December 31, 2019 and 2018, Pandora advertising revenue was $1,200 and $1,092, respectively, an increase of 10%, or $108. The increase was primarily due to growth in our off-platform advertising revenue, an increased sell-through percentage, increases in the average price per ad and revenue growth in the AdsWizz business.

We expect Pandora advertising revenue to increase due to our off-platform advertising opportunities, recovery from the impact of the COVID-19 pandemic and the addition of Stitcher.

Total Consolidated Revenue

Total Consolidated Revenue for the years ended December 31, 2020 and 2019, was $8,046 and $7,921, respectively, an increase of 2%, or $125. Total Consolidated Revenue for the years ended December 31, 2019 and 2018, was $7,921 and $7,348, respectively, an increase of 8%, or $573.

Sirius XM Cost of Services

Sirius XM Cost of Services includes revenue share and royalties, programming and content, customer service and billing and transmission expenses.

Sirius XM Revenue Share and Royalties include royalties for transmitting content, including streaming royalties, as well as automaker, content provider and advertising revenue share.

- *2020 vs. 2019*: For the years ended December 31, 2020 and 2019, revenue share and royalties were $1,484 and $1,431, respectively, an increase of 4%, or $53, and increased as a percentage of total Sirius XM revenue. The increase was driven by overall greater revenues subject to music royalties and revenue share to OEMs.

- *2019 vs. 2018*: For the years ended December 31, 2019 and 2018, revenue share and royalties were $1,431 and $1,394, respectively, an increase of 3%, or $37, but decreased as a percentage of total Sirius XM revenue. The increase was driven by overall greater revenues subject to royalties and revenue share. The increase was partially offset by a $69 charge during the second quarter of 2018 related to the legal settlement that resolved all outstanding claims, including ongoing audits, under Sirius XM's statutory license for sound recordings for the period January 1, 2007 through December 31, 2017.

We expect our Sirius XM revenue share and royalty costs to increase as our revenues grow.

Sirius XM Programming and Content includes costs to acquire, create, promote and produce content. We have entered into various agreements with third parties for music and non-music programming that require us to pay license fees and other amounts.

- *2020 vs. 2019*: For the years ended December 31, 2020 and 2019, programming and content expenses were $449 and $444, respectively, an increase of 1%, or $5, but decreased as a percentage of total Sirius XM revenue. The increase was primarily driven by higher content licensing costs as well as greater personnel-related costs partially offset by one-time benefits for reduced sports programming as a result of shortened sports seasons due to the COVID-19 pandemic and lower costs associated with hosting live events.

- *2019 vs. 2018*: For the years ended December 31, 2019 and 2018, programming and content expenses were $444 and $406, respectively, an increase of 9%, or $38, and increased as a percentage of total Sirius XM revenue. The increase was primarily driven by higher content licensing costs as well as greater personnel-related costs.

We expect our Sirius XM programming and content expenses to increase as we offer additional programming and renew or replace expiring agreements.

Sirius XM Customer Service and Billing includes costs associated with the operation and management of internal and third party customer service centers, and our subscriber management systems as well as billing and collection costs, bad debt expense, and transaction fees.

- *2020 vs. 2019*: For the years ended December 31, 2020 and 2019, customer service and billing expenses were $394 and $398, respectively, a decrease of 1%, or $4, and decreased as a percentage of total Sirius XM revenue. The decrease was driven by reduced staffing resulting from stay at home orders issued in countries in which our vendors operate call centers.

- *2019 vs. 2018*: For the years ended December 31, 2019 and 2018, customer service and billing expenses were $398 and $382, respectively, an increase of 4%, or $16, but decreased as a percentage of total Sirius XM revenue. The increase was driven by increased transaction fees from a larger subscriber base and higher bad debt expense.

We expect our Sirius XM customer service and billing expenses to increase as our subscriber base grows.

Sirius XM Transmission consists of costs associated with the operation and maintenance of our terrestrial repeater networks; satellites; satellite telemetry, tracking and control systems; satellite uplink facilities; studios; and delivery of our Internet streaming and connected vehicle services.

- *2020 vs. 2019*: For the years ended December 31, 2020 and 2019, transmission expenses were $123 and $112, respectively, an increase of 10%, or $11, and increased as a percentage of total Sirius XM revenue. The increase was primarily driven by higher hosting and wireless costs associated with our 360L platform and our streaming and connected vehicle services.

- *2019 vs. 2018*: For the years ended December 31, 2019 and 2018, transmission expenses were $112 and $96, respectively, an increase of 17%, or $16, and increased as a percentage of total Sirius XM revenue. The increase was primarily driven by higher hosting and other costs associated with our streaming services and higher repeater network costs.

We expect our Sirius XM transmission expenses to increase as costs associated with our 360L platform and investments in internet streaming grow.

Sirius XM Cost of Equipment includes costs from the sale of satellite radios, components and accessories and provisions for inventory allowance attributable to products purchased for resale in our direct to consumer distribution channels.

- *2020 vs. 2019*: For the years ended December 31, 2020 and 2019, cost of equipment was $19 and $29, respectively, a decrease of 34%, or $10, and decreased as a percentage of equipment revenue. The decrease was primarily due to lower direct sales to consumers and reduced costs due to the termination of the Automatic service.

- *2019 vs. 2018*: For the years ended December 31, 2019 and 2018, cost of equipment was $29 and $31, respectively, a decrease of 6%, or $2, and decreased as a percentage of equipment revenue. The decrease

was primarily due to lower direct sales to satellite radio and connected vehicle consumers, partially offset by an increase in our inventory reserve.

We expect our Sirius XM cost of equipment to fluctuate with the sales of our satellite radios.

Pandora Cost of Services

Pandora Cost of Services includes revenue share and royalties, programming and content, customer service and billing, and transmission expenses.

Pandora Revenue Share and Royalties includes licensing fees paid for streaming music or other content to our subscribers and listeners as well as revenue share paid to third party ad servers. We make payments to third party ad servers for the period the advertising impressions are delivered or click-through actions occur, and accordingly, we record this as a cost of service in the related period.

- *2020 vs. 2019*: For the years ended December 31, 2020 and 2019, revenue share and royalties were $943 and $945, respectively, a decrease of 0%, or $2, but increased as a percentage of total Pandora revenue. The decrease was primarily attributable to a reversal of a pre-acquisition reserve of $16 for royalties during the first quarter of 2020, lower listening hours, and the expiration during 2019 of certain minimum guarantees in direct license agreements with record labels; partially offset by the inclusion of Stitcher.

- *2019 vs. 2018*: For the years ended December 31, 2019 and 2018, revenue share and royalties were $945 and $929, respectively, an increase of 2%, or $16, but decreased as a percentage of total Pandora revenue. The increase was primarily attributable to higher revenue share driven by growth of our off-platform revenue, partially offset by lower royalty costs resulting from renegotiated agreements with record labels, music and sound recording copyright holders and distributors.

We expect our Pandora revenue share to increase as off-platform revenue increases and our royalty costs to increase due to higher music royalty rates.

Pandora Programming and Content includes costs to produce live listener events and promote content.

- *2020 vs. 2019*: For the years ended December 31, 2020 and 2019, programming and content expenses were $32 and $18, respectively, an increase of 78%, or $14, and increased as a percentage of total Pandora revenue. The increase was primarily attributable to higher production costs and personnel-related costs.

- *2019 vs. 2018*: For the years ended December 31, 2019 and 2018, programming and content expenses were $18 and $11, respectively, an increase of 64%, or $7, and increased as a percentage of total Pandora revenue. The increase was primarily attributable to higher personnel-related and content costs.

We expect our Pandora programming and content costs to increase as we offer additional programming and produce live listener events and promotions.

Pandora Customer Service and Billing includes transaction fees on subscription purchases through mobile app stores and bad debt expense.

- *2020 vs. 2019*: For the years ended December 31, 2020 and 2019, customer service and billing expenses were $87 and $85, respectively, an increase of 2%, or $2, and increased as a percentage of total Pandora revenue. The increase was primarily driven by higher bad debt expense, partially offset by lower transaction costs.

- *2019 vs. 2018*: For the years ended December 31, 2019 and 2018, customer service and billing expenses were $85 and $95, respectively, a decrease of 11%, or $10, and decreased as a percentage of total Pandora revenue. The decrease was primarily driven by lower bad debt expense due to recoveries and lower transaction fees.

We expect our Pandora customer service and billing costs to increase as our subscriber base grows.

Pandora Transmission includes costs associated with content streaming, maintaining our streaming radio and on-demand subscription services and creating and serving advertisements through third-party ad servers.

- *2020 vs. 2019*: For the years ended December 31, 2020 and 2019, transmission expenses were $54 and $63, respectively, a decrease of 14%, or $9, and decreased as a percentage of total Pandora revenue. The decrease was primarily driven by lower streaming costs due to lower listener hours and lower personnel-related costs.

- *2019 vs. 2018*: For the years ended December 31, 2019 and 2018, transmission expenses were $63 and $50, respectively, an increase of 26%, or $13, and increased as a percentage of total Pandora revenue. The increase was primarily driven by web hosting and personnel-related costs.

We expect our Pandora transmission costs to fluctuate with changes in listener hours.

Operating Costs

Subscriber Acquisition Costs are costs associated with our satellite radio service and include hardware subsidies paid to radio manufacturers, distributors and automakers; subsidies paid for chipsets and certain other components used in manufacturing radios; device royalties for certain radios and chipsets; product warranty obligations; and freight. The majority of subscriber acquisition costs are incurred and expensed in advance of acquiring a subscriber. Subscriber acquisition costs do not include advertising costs, marketing, loyalty payments to distributors and dealers of satellite radios or revenue share payments to automakers and retailers of satellite radios.

- *2020 vs. 2019*: For the years ended December 31, 2020 and 2019, subscriber acquisition costs were $362 and $427, respectively, a decrease of 15%, or $65, and decreased as a percentage of total revenue. The decrease was driven by a decline in OEM installations as a result of the COVID-19 pandemic as well as lower hardware subsidies as certain subsidy rates decreased.

- *2019 vs. 2018*: For the years ended December 31, 2019 and 2018, subscriber acquisition costs were $427 and $470, respectively, a decrease of 9%, or $43, and decreased as a percentage of total revenue. The decrease was driven by reductions to OEM hardware subsidy rates, lower subsidized costs related to the transition of chipsets, and a decrease in the volume of satellite radio installations.

We expect subscriber acquisition costs to fluctuate with OEM installations; however, the subsidized chipsets cost is expected to decline as we transition to a new generation of chipsets. We intend to continue to offer subsidies and other incentives to induce OEMs to include our technology in their vehicles.

Sales and Marketing includes costs for marketing, advertising, media and production, including promotional events and sponsorships; cooperative and artist marketing; and personnel related costs including salaries, commissions, and sales support. Marketing costs include expenses related to direct mail, outbound telemarketing, email communications, social media, television and digital performance media.

- *2020 vs. 2019*: For the years ended December 31, 2020 and 2019, sales and marketing expenses were $957 and $973, respectively, a decrease of 2%, or $16, and decreased as a percentage of total revenue. The decrease was primarily due to lower personnel-related costs and lower travel and entertainment costs, partially offset by additional subscriber communications and acquisition campaigns.

- *2019 vs. 2018*: For the years ended December 31, 2019 and 2018, sales and marketing expenses were $973 and $883, respectively, an increase of 10%, or $90, and increased as a percentage of total revenue. The increase was primarily due to additional acquisition campaigns and subscriber communications as well as higher personnel-related costs.

We anticipate that sales and marketing expenses will increase with growth in our trial subscriber base, as we expand programs to retain our existing subscribers, win back former subscribers, attract new subscribers and listeners, and as we grow advertising revenue.

Engineering, Design and Development consists primarily of compensation and related costs to develop chipsets and new products and services, including streaming and connected vehicle services, research and development for broadcast information systems and costs associated with the incorporation of our radios into new vehicles manufactured by automakers.

- *2020 vs. 2019*: For the years ended December 31, 2020 and 2019, engineering, design and development expenses were $263 and $294, respectively, a decrease of 11%, or $31, and decreased as a percentage of total revenue. The decrease was driven by lower personnel-related costs.

- *2019 vs. 2018*: For the years ended December 31, 2019 and 2018, engineering, design and development expenses were $294 and $266, respectively, an increase of 11%, or $28, and increased as a percentage of total revenue. The increase was driven by higher personnel-related costs.

We expect engineering, design and development expenses to increase in future periods as we continue to develop our infrastructure, products and services.

General and Administrative primarily consists of compensation and related costs for personnel and facilities, and include costs related to our finance, legal, human resources and information technologies departments.

- *2020 vs. 2019*: For the years ended December 31, 2020 and 2019, general and administrative expenses were $511 and $540, respectively, a decrease of 5%, or $29, and decreased as a percentage of total revenue. The decrease was primarily driven a one-time $25 legal settlement associated with Do-Not-Call litigation recorded in the first quarter of 2019, lower personnel-related costs, the closure of a sales and use tax audit in the second quarter of 2020, and lower travel and entertainment costs, partially offset by a $25 contribution in 2020 to a donor fund that will be the source of our future charitable donations and higher legal costs.

- *2019 vs. 2018*: For the years ended December 31, 2019 and 2018, general and administrative expenses were $540 and $517, respectively, an increase of 4%, or $23, but decreased as a percentage of total revenue. The increase was primarily driven by a $25 legal settlement associated with Do-Not-Call litigation and higher rent, partially offset by lower personnel-related costs.

We expect our general and administrative expenses to remain relatively flat.

Depreciation and Amortization represents the recognition in earnings of the cost of assets used in operations, including our satellite constellations, property, equipment and intangible assets, over their estimated service lives.

- *2020 vs. 2019*: For the years ended December 31, 2020 and 2019, depreciation and amortization expense was $506 and $483, respectively, an increase of 5%, or $23, and increased as a percentage of total revenue. The increase was driven by additional assets placed in-service.

- *2019 vs. 2018*: For the years ended December 31, 2019 and 2018, depreciation and amortization expense was $483 and $465, respectively, an increase of 4%, or $18, but decreased as a percentage of total revenue. The increase was driven by additional assets placed in-service.

Impairment Charges represents losses associated with the amount by which the carrying amount of an asset exceeds the asset's fair value.

- *2020 vs. 2019*: For the year ended December 31, 2020, impairment charge was $976. We recorded a goodwill impairment charge of $956 during the year ended December 31, 2020 to write down the carrying amount of the Pandora goodwill and an impairment charge of $20 to write down the carrying value of our Pandora trademark. We did not record an impairment charge in 2019 or 2018.

Other (Expense) Income

Interest Expense includes interest on outstanding debt.

- *2020 vs. 2019*: For the years ended December 31, 2020 and 2019, interest expense was $394 and $392, respectively, an increase of 1%, or $2. The increase was primarily driven by higher average debt due to the issuances of Sirius XM's 5.500% Senior Notes due 2029, 4.625% Senior Notes due 2024 in 2019, and 4.125% Senior Notes due 2030 in 2020; partially offset by the redemption of Sirius XM's 6.00% Senior Notes due 2024, redemption of the Pandora convertible notes in 2019, a lower average outstanding balance under the Credit Facility and lower interest rates.

- *2019 vs. 2018*: For the years ended December 31, 2019 and 2018, interest expense was $392 and $377, respectively, an increase of 4%, or $15. The increase was primarily driven by higher average debt due to the issuances of Sirius XM's 5.500% Senior Notes due 2029 and 4.625% Senior Notes due 2024, partially offset by the redemption of Sirius XM's 6.00% Senior Notes due 2024, the repurchase of the Pandora 1.75% Convertible Senior Notes due 2020 and lower interest rates.

Loss on Extinguishment of Debt, includes losses incurred as a result of the redemption of certain debt.

- *2020 vs. 2019*: For the year ended December 31, 2020, we recorded a $40 loss due to the redemption of $500 principal amount of Sirius XM's 4.625% Senior Notes due 2023 and $1,000 principal amount of Sirius XM's 5.375% Senior Notes due 2025. During the year ended December 31, 2019, we recorded a $57 loss due to the redemption of $1,500 in principal amount of Sirius XM's 6.00% Senior Notes due 2024 and the repurchase of $151 in principal amount of Pandora's 1.75% Convertible Senior Notes due 2020.

- *2019 vs. 2018*: For the year ended December 31, 2019, we recorded a $57 loss due to the redemption of $1,500 in principal amount of Sirius XM's 6.00% Senior Notes due 2024 and the repurchase of $151 in principal amount of Pandora's 1.75% Convertible Senior Notes due 2020. During the year ended December 31, 2018, we recorded a $17 loss on extinguishment of debt primarily due to the exchange of Pandora's 1.75% Convertible Senior Notes due 2020 for new 1.75% Convertible Senior Notes due 2023.

Other Income (Expense) primarily includes realized and unrealized gains and losses, interest and dividend income, our share of the income or loss from equity investments, and transaction costs related to non-operating investments.

- *2020 vs. 2019*: For the years ended December 31, 2020 and 2019, other income (expense) was $6 and $(2), respectively. Other income for the year ended December 31, 2020 was driven by a one-time lawsuit settlement of $7. Other expense for the year ended December 31, 2019 was driven by losses on other investments of $21; partially offset by interest earned on our loan to Sirius XM Canada of $10, trading gains associated with the investments held for our Deferred Compensation Plan of $4 and interest income of $3.

- *2019 vs. 2018*: For the years ended December 31, 2019 and 2018, other (expense) income was $(2) and $8, respectively. During the year ended December 31, 2019, other expense was driven by losses on other investments of $21; partially offset by interest earned on our loan to Sirius XM Canada of $10, trading gains associated with the investments held for our Deferred Compensation Plan of $4 and interest income of $3. During the year ended December 31, 2018, other income was driven by interest earned on our loan to Sirius XM Canada of $10 and interest income of $8, partially offset by losses on other investments of $10.

Income Taxes

Income Tax Expense includes the change in our deferred tax assets, current federal and state tax expenses, and foreign withholding taxes.

- *2020 vs. 2019*: For the years ended December 31, 2020 and 2019, income tax expense was $299 and $290, respectively, and our effective tax rate was 69.5% and 23.6%, respectively. The effective tax rate of 69.5% for the year ended December 31, 2020 was primarily impacted by the nondeductible Pandora goodwill impairment charge, partially offset by the recognition of excess tax benefits related to share-based compensation, a benefit related to state and federal research and development and certain other credits and a worthless stock deduction associated with the termination of the Automatic service. The effective tax rate of 23.6% was primarily impacted by the recognition of excess tax benefits related to share-based compensation and benefits related to state and federal research and development and certain other credits, partially offset by the impact of nondeductible compensation.
- *2019 vs. 2018*: For the years ended December 31, 2019 and 2018, income tax expense was $290 and $123, respectively, and our effective tax rate was 23.6% and 12.7%, respectively. The effective tax rate of 23.6% for the year ended December 31, 2019 was primarily impacted by the recognition of excess tax benefits related to share-based compensation and benefits related to state and federal research and development and certain other credits, partially offset by the impact of nondeductible compensation. The effective tax rate of 12.7% for the year ended December 31, 2018 was primarily impacted by the recognition of excess tax benefits related to share based compensation and a benefit related to state and federal research and development credits under the Protecting Americans from Tax Hikes Act of 2015.

Footnotes to Pro Forma Results of Operations

The following tables reconcile our results of operations as reported to our *pro forma* results of operations for the years ended December 31, 2020, 2019 and 2018 which includes the Pandora pre-acquisition financial information for the applicable periods and the effects of purchase price accounting. These pro forma results are based on estimates and assumptions, which we believe are reasonable. They are not the results that would have been realized had the Pandora Acquisition actually occurred on January 1, 2018 and are not indicative of our consolidated results of operations in future periods. The pro forma results primarily include adjustments related to amortization of acquired intangible assets, depreciation of property and equipment, acquisition costs, fair value gain or loss on the Pandora investment and associated tax impacts.

	Unaudited for the Year Ended December 31, 2020				
	As Reported	Predecessor Financial Information	Purchase Price Accounting and Pro Forma Adjustments	Ref	Pro Forma
Revenue					
Sirius XM:					
Subscriber revenue	$ 5,857	$ —	$ —		$ 5,857
Advertising revenue	157	—	—		157
Equipment revenue	173	—	—		173
Other revenue	155	—	6	(a)	161
Total Sirius XM revenue	6,342	—	6		6,348
Pandora:					
Subscriber revenue	515	—	—		515
Advertising revenue	1,183	—	—		1,183
Total Pandora revenue	1,698	—	—		1,698
Total consolidated revenue	8,040	—	6		8,046
Cost of services					
Sirius XM:					
Revenue share and royalties	1,484	—	—		1,484
Programming and content	449	—	—		449
Customer service and billing	394	—	—		394
Transmission	123	—	—		123
Cost of equipment	19	—	—		19
Total Sirius XM cost of services	2,469	—	—		2,469
Pandora:					
Revenue share and royalties	937	—	6	(b)	943
Programming and content	32	—	—		32
Customer service and billing	87	—	—		87
Transmission	54	—	—		54
Total Pandora cost of services	1,110	—	6		1,116
Total consolidated cost of services	3,579	—	6		3,585
Subscriber acquisition costs	362	—	—		362
Sales and marketing	957	—	—		957
Engineering, design and development	263	—	—		263
General and administrative	511	—	—		511
Depreciation and amortization	506	—	—		506
Acquisition and restructuring costs	28	—	—		28
Impairment charges	976	—	—		976
Total operating expenses	7,182	—	6		7,188
Income (loss) from operations	858	—	—		858
Other (expense) income:					
Interest expense	(394)	—	—		(394)
Loss on extinguishment of debt	(40)	—	—		(40)
Other (expense) income	6	—	—		6
Total other (expense) income	(428)	—	—		(428)
Income (loss) before income taxes	430	—	—		430
Income tax expense	(299)	—	—		(299)
Net income	$ 131	$ —	$ —		$ 131

(a) This adjustment eliminates the impact of additional revenue associated with certain programming agreements recorded as part of the merger of Sirius and XM (the "XM Merger").

(b) This adjustment includes the impact of additional expense associated with minimum guarantee royalty contracts recorded as part of the Pandora Acquisition.

	Unaudited for the Year Ended December 31, 2019				
	As Reported	Predecessor Financial Information (c)	Purchase Price Accounting and Pro Forma Adjustments	Ref	Pro Forma
Revenue					
Sirius XM:					
Subscriber revenue	$ 5,644	$ —	$ —		$ 5,644
Advertising revenue	205	—	—		205
Equipment revenue	173	—	—		173
Other revenue	165	—	7	(d)	172
Total Sirius XM revenue	6,187	—	7		6,194
Pandora:					
Subscriber revenue	476	46	5	(e)	527
Advertising revenue	1,131	68	1	(e)	1,200
Total Pandora revenue	1,607	114	6		1,727
Total consolidated revenue	7,794	114	13		7,921
Cost of services					
Sirius XM:					
Revenue share and royalties	1,431	—	—		1,431
Programming and content	444	—	—		444
Customer service and billing	398	—	—		398
Transmission	112	—	—		112
Cost of equipment	29	—	—		29
Total Sirius XM cost of services	2,414	—	—		2,414
Pandora:					
Revenue share and royalties	860	71	14	(f)	945
Programming and content	18	—	—		18
Customer service and billing	77	8	—		85
Transmission	58	5	—		63
Total Pandora cost of services	1,013	84	14		1,111
Total consolidated cost of services	3,427	84	14		3,525
Subscriber acquisition costs	427	—	—		427
Sales and marketing	937	36	—		973
Engineering, design and development	280	14	—		294
General and administrative	524	16	—		540
Depreciation and amortization	468	6	9	(g)	483
Acquisition and restructuring costs	84	1	(85)	(h)	—
Total operating expenses	6,147	157	(62)		6,242
Income (loss) from operations	1,647	(43)	75		1,679
Other (expense) income:					
Interest expense	(390)	(2)	—		(392)
Loss on extinguishment of debt	(57)	—	—		(57)
Other (expense) income	(3)	1	—		(2)
Total other (expense) income	(450)	(1)	—		(451)
Income (loss) before income taxes	1,197	(44)	75		1,228
Income tax expense	(283)	—	(7)	(i)	(290)
Net income	$ 914	$ (44)	$ 68		$ 938

(c) Represents Pandora's results for the period January 1, 2019 through January 31, 2019.
(d) This adjustment eliminates the impact of additional revenue associated with certain programming agreements recorded as part of the XM Merger.
(e) This adjustment relates to the amortization of deferred subscription and deferred advertising revenue that was fair valued in purchase accounting.
(f) This adjustment includes the impact of additional expense associated with minimum guarantee royalty contracts recorded as part of the Pandora Acquisition.
(g) This adjustment includes the impact of the additional amortization associated with the acquired intangible assets recorded as part of the Pandora Acquisition that are subject to amortization, partially offset by normal depreciation associated with assets revalued in purchase accounting.

(h) This adjustment eliminates the impact of acquisition and other related costs.
(i) This adjustment to income taxes was calculated by applying Sirius XM's statutory tax rate at December 31, 2019 to the pro forma adjustments of $75 and Pandora's pre-acquisition loss before income tax of $(44).

	Unaudited for the Year Ended December 31, 2018				
	As Reported	Predecessor Financial Information (j)	Purchase Price Accounting and Pro Forma Adjustments	Ref	Pro Forma
Revenue					
Sirius XM:					
Subscriber revenue	$ 5,264	$ —	$ —		$ 5,264
Advertising revenue	188	—	—		188
Equipment revenue	155	—	—		155
Other revenue	164	—	7	(k)	171
Total Sirius XM revenue	5,771	—	7		5,778
Pandora:					
Subscriber revenue	—	478	—		478
Advertising revenue	—	1,092	—		1,092
Total Pandora revenue	—	1,570	—		1,570
Total consolidated revenue	5,771	1,570	7		7,348
Cost of services					
Sirius XM:					
Revenue share and royalties	1,394	—	—		1,394
Programming and content	406	—	—		406
Customer service and billing	382	—	—		382
Transmission	96	—	—		96
Cost of equipment	31	—	—		31
Total Sirius XM cost of services	2,309	—	—		2,309
Pandora:					
Revenue share and royalties	—	929	—		929
Programming and content	—	11	—		11
Customer service and billing	—	95	—		95
Transmission	—	50	—		50
Total Pandora cost of services	—	1,085	—		1,085
Total consolidated cost of services	2,309	1,085	—		3,394
Subscriber acquisition costs	470	—	—		470
Sales and marketing	484	399	—		883
Engineering, design and development	123	143	—		266
General and administrative	354	169	(6)	(l)	517
Depreciation and amortization	301	61	103	(m)	465
Acquisition and restructuring costs	3	12	(15)	(n)	—
Total operating expenses	4,044	1,869	82		5,995
Income (loss) from operations	1,727	(299)	(75)		1,353
Other (expense) income:					
Interest expense	(350)	(27)	—		(377)
Loss on extinguishment of debt	—	(17)	—		(17)
Other (expense) income	44	7	(43)	(o)	8
Total other (expense) income	(306)	(37)	(43)		(386)
Income (loss) before income taxes	1,421	(336)	(118)		967
Income tax expense	(245)	8	114	(p)	(123)
Net income	$ 1,176	$ (328)	$ (4)		$ 844

(j) Represents Pandora’s results for the period January 1, 2018 through December 31, 2018.
(k) This adjustment eliminates the impact of additional revenue associated with certain programming agreements recorded as part of the XM Merger.
(l) This adjustment eliminates the impact of contract termination fees.

(m) This adjustment includes the impact of the additional amortization associated with the acquired intangible assets recorded as part of the Pandora Acquisition that are subject to amortization, partially offset by normal depreciation associated with assets revalued in purchase accounting.
(n) This adjustment eliminates the impact of transaction related costs, recorded by Pandora, to advisers for the planned acquisition by Sirius XM.
(o) This adjustment eliminates the unrealized gain for the fair value adjustment of our preferred stock investment in Pandora.
(p) This adjustment to income taxes was calculated by applying Sirius XM's statutory tax rate at December 31, 2018 to the pro forma adjustments of $(118) and Pandora's loss before income tax of $(336).

Key Financial and Operating Performance Metrics

In this section, we present certain financial performance measures some of which are presented as Non-GAAP items, which include free cash flow and adjusted EBITDA. We also present certain operating performance measures. Our adjusted EBITDA excludes the impact of share-based payment expense and certain purchase price accounting adjustments related to the XM Merger and the Pandora Acquisition. Additionally, when applicable, our adjusted EBITDA metric excludes the effect of significant items that do not relate to the on-going performance of our business. We use these Non-GAAP financial and operating performance measures to manage our business, to set operational goals and as a basis for determining performance-based compensation for our employees. See the accompanying glossary on pages 62 through 65 for more details and for the reconciliation to the most directly comparable GAAP measure (where applicable).

We believe these Non-GAAP financial and operating performance measures provide useful information to investors regarding our financial condition and results of operations. We believe these Non-GAAP financial and operating performance measures may be useful to investors in evaluating our core trends because they provide a more direct view of our underlying costs. We believe investors may use our adjusted EBITDA to estimate our current enterprise value and to make investment decisions. We believe free cash flow provides useful supplemental information to investors regarding our cash available for future subscriber acquisitions and capital expenditures, to repurchase or retire debt, to acquire other companies and our ability to return capital to stockholders. By providing these Non-GAAP financial and operating performance measures, together with the reconciliations to the most directly comparable GAAP measure (where applicable), we believe we are enhancing investors' understanding of our business and our results of operations.

Our Non-GAAP financial measures should be viewed in addition to, and not as an alternative for or superior to, our reported results prepared in accordance with GAAP. In addition, our Non-GAAP financial measures may not be comparable to similarly-titled measures by other companies. Please refer to the glossary (pages 62 through 65) for a further discussion of such Non-GAAP financial and operating performance measures and reconciliations to the most directly comparable GAAP measure (where applicable). Subscribers and subscription related revenues and expenses associated with our connected vehicle services and Sirius XM Canada are not included in Sirius XM's subscriber count or subscriber-based operating metrics.

Set forth below are our subscriber balances as of December 31, 2020 compared to December 31, 2019 and as of December 31, 2019 compared to December 31, 2018.

	As of December 31,			2020 vs 2019 Change		2019 vs 2018 Change	
(subscribers in thousands)	**2020**	**2019**	**2018 (1)**	**Amount**	**%**	**Amount**	**%**
Sirius XM							
Self-pay subscribers	30,887	29,978	28,915	909	3 %	1,063	4 %
Paid promotional subscribers	3,827	4,931	5,124	(1,104)	(22)%	(193)	(4)%
Ending subscribers	34,714	34,909	34,039	(195)	(1)%	870	3 %
Traffic users	9,301	9,334	8,606	(33)	— %	728	8 %
Sirius XM Canada subscribers	2,622	2,707	2,644	(85)	(3)%	63	2 %
Pandora							
Monthly active users - all services	58,882	63,508	69,399	(4,626)	(7)%	(5,891)	(8)%
Self-pay subscribers	6,298	6,165	5,914	133	2 %	251	4 %
Paid promotional subscribers	43	49	756	(6)	(12)%	(707)	(94)%
Ending subscribers	6,341	6,214	6,670	127	2 %	(456)	(7)%

(1) Includes Pandora's results as of December 31, 2018.

The following table contains our Non-GAAP pro forma financial and operating performance measures which are based on our adjusted results of operations for the years ended December 31, 2020, 2019 and 2018.

	For the Years Ended December 31,			2020 vs 2019 Change		2019 vs 2018 Change	
(subscribers in thousands)	2020	2019 [1]	2018 [2]	Amount	%	Amount	%
Sirius XM							
Self-pay subscribers	909	1,063	1,402	(154)	(14)%	(339)	(24)%
Paid promotional subscribers	(1,104)	(193)	(99)	(911)	(472)%	(94)	(95)%
Net additions	(195)	870	1,303	(1,065)	(122)%	(433)	(33)%
Weighted average number of subscribers	34,523	34,314	33,345	209	1 %	969	3 %
Average self-pay monthly churn	1.7 %	1.7 %	1.7 %	— %	— %	— %	— %
ARPU [3]	$ 14.10	$ 13.82	$ 13.34	$ 0.28	2 %	$ 0.48	4 %
SAC, per installation	$ 18.65	$ 22.91	$ 25.66	$ (4.26)	(19)%	$ (2.75)	(11)%
Pandora							
Self-pay subscribers	133	251	436	(118)	(47)%	(185)	(42)%
Paid promotional subscribers	(6)	(707)	756	701	99 %	(1,463)	(194)%
Net additions	127	(456)	1,192	583	128 %	(1,648)	(138)%
Weighted average number of subscribers	6,315	6,654	6,080	(339)	(5)%	574	9 %
ARPU	$ 6.76	$ 6.61	$ 6.53	$ 0.15	2 %	$ 0.08	1 %
Ad supported listener hours (in billions)	12.50	13.44	14.79	(0.94)	(7)%	(1.35)	(9)%
Advertising revenue per thousand listener hours (RPM)	$ 79.24	$ 80.41	$ 71.60	$ (1.17)	(1)%	$ 8.81	12 %
Licensing costs per thousand listener hours (LPM)	$ 40.14	$ 38.94	$ 37.80	$ 1.20	3 %	$ 1.14	3 %
Licensing costs per paid subscriber (LPU)	$ 4.14	$ 4.06	$ 4.47	$ 0.08	2 %	$ (0.41)	(9)%
Total Company							
Adjusted EBITDA	$ 2,575	$ 2,427	$ 2,131	$ 148	6 %	$ 296	14 %
Free cash flow [4]	$ 1,660	$ 1,647	$ 1,517	$ 13	1 %	$ 130	9 %

(1) Includes Pandora's results for the twelve month period, including pre-acquisition results for the period January 1, 2019 through January 31, 2019.
(2) Includes Pandora's results for the twelve month period, including pre-acquisition results for the period January 1, 2018 through December 31, 2018.
(3) ARPU for Sirius XM excludes subscriber revenue from our connected vehicle services of $174, $159 and $111 for the years ended December 31, 2020, 2019 and 2018, respectively.
(4) Free cash flow has not been adjusted for Pandora's pre-acquisition results.

Sirius XM

Subscribers. At December 31, 2020, we had approximately 34,714 subscribers, a decrease of approximately 195 subscribers, or 1%, from the approximately 34,909 subscribers as of December 31, 2019. The decrease in total subscribers was primarily due to the decline in paid promotional subscribers, partially offset by growth in our self-pay subscriber base from lower non-pay and vehicle related churn as well as additions from subscriber win back programs.

- *2020 vs. 2019*: For the years ended December 31, 2020 and 2019, net additions were (195) and 870, respectively, a decrease of 122%, or 1,065. Paid promotional subscribers decreased as shipments and trial subscription starts from automakers offering paid subscriptions declined as a result of the COVID-19 pandemic. Self-pay net additions decreased year over year as growth in subsequent owner trial conversions, stand-alone streaming net additions, win back programs and reductions in vehicle related and non-pay churn were offset by reduced additions from new car conversions as well as increases in voluntary churn.
- *2019 vs. 2018*: For the years ended December 31, 2019 and 2018, net additions were 870 and 1,303, respectively, a decrease of 33%, or 433. Self-pay net additions decreased primarily due to a flat churn rate on a growing subscriber base and lower gross add win-backs, offset by increases in trial conversions. The reduction of paid promotional subscribers increased due to lower shipments and trial starts from automakers offering paid promotional subscriptions.

Traffic Users. We offer services that provide graphic information as to road closings, traffic flow and incident data to consumers with compatible in-vehicle navigation systems.

Average Self-pay Monthly Churn is derived by dividing the monthly average of self-pay deactivations for the period by the average number of self-pay subscribers for the period. (See accompanying glossary on pages 62 through 65 for more details.)

- *2020 vs. 2019*: For the years ended December 31, 2020 and 2019, our average self-pay monthly churn rate was 1.7%. Decreases in non-pay and vehicle related churn were offset by increased voluntary churn.
- *2019 vs. 2018*: For the years ended December 31, 2019 and 2018, our average self-pay monthly churn rate was 1.7%. Decreased voluntary churn was offset by increased used vehicle churn.

ARPU is derived from total earned subscriber revenue (excluding revenue derived from our connected vehicle services) and net advertising revenue, divided by the number of months in the period, divided by the daily weighted average number of subscribers for the period. (See the accompanying glossary on pages 62 through 65 for more details.)

- *2020 vs. 2019*: For the years ended December 31, 2020 and 2019, ARPU was $14.10 and $13.82, respectively. The increase was driven by an increase in certain subscription rates and the U.S. Music Royalty Fee; partially offset by lower advertising revenue.
- *2019 vs. 2018*: For the years ended December 31, 2019 and 2018, ARPU was $13.82 and $13.34, respectively. The increase was driven by increases in the U.S. Music Royalty Fee, increases in self-pay revenue and higher advertising revenue.

SAC, Per Installation, is derived from subscriber acquisition costs less margins from the sale of radios, components and accessories (excluding connected vehicle services), divided by the number of satellite radio installations in new vehicles and shipments of aftermarket radios for the period. (See the accompanying glossary on pages 62 through 65 for more details.)

- *2020 vs. 2019*: For the years ended December 31, 2020 and 2019, SAC, per installation, was $18.65 and $22.91, respectively. The decrease was driven by reductions to OEM hardware subsidy rates and our transition to a new generation of chipsets.
- *2019 vs. 2018*: For the years ended December 31, 2019 and 2018, SAC, per installation, was $22.91 and $25.66, respectively. The decrease was driven by our transition to a new generation of chipsets and reductions to OEM hardware subsidy rates.

Pandora

Monthly Active Users. At December 31, 2020, Pandora had approximately 58,882 monthly active users, a decrease of 4,626 monthly active users, or 7%, from the 63,508 monthly active users as of December 31, 2019. The decrease in monthly active users was driven by an increase in ad-supported listener churn and a decrease in the number of new users.

Subscribers. At December 31, 2020, Pandora had approximately 6,341 subscribers, an increase of 127, or 2%, from the approximately 6,214 subscribers as of December 31, 2019.

- *2020 vs. 2019*: For the years ended December 31, 2020 and 2019, net additions were 127 and (456), respectively, an increase of 128%, or 583. Net additions increased as a result of the growth in our Pandora Premium plans during 2020.
- *2019 vs. 2018*: For the years ended December 31, 2019 and 2018, net additions were (456) and 1,192, respectively, a decrease of 138%, or 1,648. Net additions decreased due to a loss of paid promotional subscribers from the expiration of an agreement with T-Mobile.

ARPU is defined as average monthly revenue per paid subscriber on our Pandora subscription services. (See the accompanying glossary on pages 62 through 65 for more details.)

- *2020 vs. 2019*: For the years ended December 31, 2020 and 2019, ARPU was $6.76 and $6.61, respectively. The increase was primarily driven by the expiration of a lower rate T-Mobile plan in 2019 and a shift in subscriber mix toward Pandora Premium plans.
- *2019 vs. 2018*: For the years ended December 31, 2019 and 2018, ARPU was $6.61 and $6.53, respectively. The increase was primarily driven by an increase in the number of Pandora Premium subscribers while the number of lower price Pandora Plus subscribers decreased.

Ad supported listener hours are a key indicator of our Pandora business and the engagement of our Pandora listeners. We include ad supported listener hours related to Pandora's non-radio content offerings in the definition of listener hours.

- *2020 vs. 2019*: For the years ended December 31, 2020 and 2019, ad supported listener hours was 12.50 billion and 13.44 billion, respectively. The decrease in ad supported listener hours was primarily driven the decline in monthly active users, partially offset by higher hours per active user.
- *2019 vs. 2018*: For the years ended December 31, 2019 and 2018, ad supported listener hours was 13.44 billion and 14.79 billion, respectively. The decline in ad supported listener hours was primarily driven by a decrease in ad-supported listeners.

RPM is a key indicator of our ability to monetize advertising inventory created by our listener hours on the Pandora services. Ad RPM is calculated by dividing advertising revenue by the number of thousands of listener hours of our Pandora advertising-based service.

- *2020 vs. 2019*: For the years ended December 31, 2020 and 2019, RPM was $79.24 and $80.41, respectively. The decrease was a result of lower sell-through percentages as a result of the COVID-19 pandemic.
- *2019 vs. 2018*: For the years ended December 31, 2019 and 2018, RPM was $80.41 and $71.60, respectively. The increase was a result of an increase in the average price per ad and increased sell-through percentage.

LPM is tracked for our non-subscription, ad-supported service across all Pandora delivery platforms. The content acquisition costs included in our ad LPM calculations are based on the rates set by our license agreements with record labels, performing rights organizations and music publishers or the applicable rates set by the Copyright Royalty Board if we have not entered into a license agreement with the copyright owner of a particular sound recording.

- *2020 vs. 2019*: For the years ended December 31, 2020 and 2019, LPM was $40.14 and $38.94, respectively. The increase was primarily driven by higher eligible advertising revenue.
- *2019 vs. 2018*: For the years ended December 31, 2019 and 2018, LPM was $38.94 and $37.80, respectively. The increase was primarily driven by higher eligible advertising revenue and increases to track rates.

LPU is defined as average monthly licensing costs per paid subscriber on our Pandora subscription services. LPU is a key measure of our ability to manage costs for our subscription services.

- *2020 vs. 2019*: For the years ended December 31, 2020 and 2019, LPU was $4.14 and $4.06, respectively. The increase was due to increased Pandora subscriber ARPU.
- *2019 vs. 2018*: For the years ended December 31, 2019 and 2018, LPU was $4.06 and $4.47, respectively. The decrease was due to lower minimum guarantees associated with our direct license agreements with major and independent labels, distributors, performing rights organizations and publishers.

Total Company

Adjusted EBITDA. EBITDA is defined as net income before interest expense, income tax expense and depreciation and amortization. Adjusted EBITDA excludes the impact of other income, loss on extinguishment of debt, acquisition related costs, other non-cash charges, such as certain purchase price accounting adjustments, impairment charges, share-based payment expense, loss on disposal of assets, and legal settlements and reserves related to the historical use of sound recordings. (See the accompanying glossary on pages 62 through 65 for a reconciliation to GAAP and for more details.)

- *2020 vs. 2019*: For the years ended December 31, 2020 and 2019, adjusted EBITDA was $2,575 and $2,427, respectively, an increase of 6%, or $148. The increase was due to higher subscriber revenue, lower subscriber acquisition costs, travel and entertainment expenses and personnel-related costs, partially offset by higher revenue share and royalties, lower advertising revenue and a $25 contribution to a donor advised fund that will be the source of our future charitable donations.
- *2019 vs. 2018*: For the years ended December 31, 2019 and 2018, adjusted EBITDA was $2,427 and $2,131, respectively, an increase of 14%, or $296. The increase was due to: growth of 8% in total revenue which was primarily a result of the increase in our subscriber base; additional revenues from the U.S. Music Royalty Fee; an increase in advertising revenue; and lower subscriber acquisition costs. The increases were partially offset by higher revenue share and royalty, sales and marketing, programming and content, transmission, engineering, design and development, and general and administrative costs.

Free Cash Flow includes cash provided by operations, net of additions to property and equipment, restricted and other investment activity and the return of capital from an investment in an unconsolidated entity. (See the accompanying glossary on pages 62 through 65 for a reconciliation to GAAP and for more details.)

- *2020 vs. 2019*: For the years ended December 31, 2020 and 2019, free cash flow was $1,660 and $1,647, respectively, an increase of $13, or 1%. The increase was impacted by $25 for a legal settlement paid during 2019 and lower cash used to construct replacement satellites during 2020, partially offset by a $25 contribution to a donor advised fund that will be the source of our future charitable donations.
- *2019 vs. 2018*: For the years ended December 31, 2019 and 2018, free cash flow was $1,647 and $1,517, respectively, an increase of $130, or 9%. The increase was impacted by the one-time lump sum payment of $150 to resolve all outstanding claims under our statutory license for sound recordings for the period January 1, 2007 through December 31, 2017, paid during 2018; partially offset by $25 for a legal settlement paid during 2019.

Liquidity and Capital Resources

Cash Flows for the year ended December 31, 2020 compared with the year ended December 31, 2019 and for the year ended December 31, 2019 compared with the year ended December 31, 2018.

The following table presents a summary of our cash flow activity for the periods set forth below:

	For the Years Ended December 31,				
	2020	2019	2018	2020 vs 2019	2019 vs 2018
Net cash provided by operating activities	$ 2,018	$ 2,017	$ 1,880	$ 1	$ 137
Net cash used in investing activities	(741)	(3)	(379)	(738)	376
Net cash used in financing activities	(1,314)	(1,959)	(1,515)	645	(444)
Net (decrease) increase in cash, cash equivalents and restricted cash	(37)	55	(14)	(92)	69
Cash, cash equivalents and restricted cash at beginning of period	120	65	79	55	(14)
Cash, cash equivalents and restricted cash at end of period	$ 83	$ 120	$ 65	$ (37)	$ 55

Cash Flows Provided by Operating Activities

Cash flows provided by operating activities increased by $1 to $2,018 for the year ended December 31, 2020 from $2,017 for the year ended December 31, 2019. Cash flows provided by operating activities increased by $137 to $2,017 for the year ended December 31, 2019 from $1,880 for the year ended December 31, 2018.

Our largest source of cash provided by operating activities is cash generated by subscription and subscription-related revenues. We also generate cash from the sale of advertising through our Pandora business, advertising on certain non-music channels on Sirius XM and the sale of satellite radios, components and accessories. Our primary uses of cash from operating activities include revenue share and royalty payments to distributors, programming and content providers, and payments to radio manufacturers, distributors and automakers. In addition, uses of cash from operating activities include payments to vendors to service, maintain and acquire listeners and subscribers, general corporate expenditures, and compensation and related costs.

Cash Flows Used in Investing Activities

Cash flows used in investing activities in the year ended December 31, 2020 were primarily due to the acquisition of Stitcher of $272, our $75 investment in SoundCloud, the acquisition of Simplecast of $28, spending primarily for capitalized software and hardware, and to construct replacement satellites. Cash flows provided by investing activities in the year ended December 31, 2019 were primarily due to spending for capitalized software and hardware, and to construct replacement satellites, offset by cash received from the Pandora Acquisition of $313 and from the sale of short-term investments of $73. Cash flows used in investing activities in the year ended December 31, 2018 were primarily due additions to property and equipment of $355 primarily for capitalized software and hardware and to construct replacement satellites. We spent $242, $214 and $166 on capitalized software and hardware as well as $57, $82 and $132 to construct replacement satellites during the years ended December 31, 2020, 2019 and 2018, respectively.

Cash Flows Used in Financing Activities

Cash flows used in financing activities consists of the issuance and repayment of long-term debt, the purchase of common stock under our share repurchase program, the payment of cash dividends and taxes paid in lieu of shares issued for stock-based compensation. Proceeds from long term debt have been used to fund our operations, construct and launch new satellites, invest in other infrastructure improvements and purchase shares of our common stock.

Cash flows used in financing activities in the year ended December 31, 2020 were primarily due to the redemption of Sirius XM's 4.625% Senior Notes due 2023 in the aggregate amount of $505 and Sirius XM's 5.375% Senior Notes due 2025 in the aggregate amount of $1,033, the purchase and retirement of shares of our common stock under our repurchase program for $1,555, the payment of cash dividends of $237, and payment of $114 for taxes in lieu of shares issued for share-based compensation; partially offset by the issuance of $1,481 in aggregate principal amount of Sirius XM's 4.125% Senior Notes due 2030, net of costs and net borrowings of $649 from the Credit Facility. Cash flows used in financing activities in the year ended December 31, 2019 were primarily due to the purchase and retirement for $2,159 of shares of our common stock under our repurchase program, the redemption of Sirius XM's 6.00% Senior Notes due 2024 in the aggregate amount of $1,546, repayment under the Credit Facility of $439, the repurchase for $152 of Pandora's 1.75% Convertible Senior Notes due 2020, the payment of cash dividends of $226 and payment of $150 for taxes in lieu of shares issued for share-based compensation, partially offset by cash provided by the issuance of $2,715 in aggregate principal amount of Sirius XM's 5.500% Senior Notes due 2029, net of costs, and Sirius XM's 4.625% Senior Notes due 2024, net of costs.

Future Liquidity and Capital Resource Requirements

Based upon our current business plans, we expect to fund operating expenses, capital expenditures, including the construction of replacement satellites, working capital requirements, interest payments, taxes and scheduled maturities of our debt with existing cash, cash flow from operations and borrowings under our Credit Facility. As of December 31, 2020, $649 was outstanding under our Credit Facility. As the amount available for future borrowing is reduced by $1 related to letters of credit issued for the benefit of Pandora, $1,100 was available for future borrowing under our Credit Facility. We believe that we have sufficient cash and cash equivalents, as well as debt capacity, to cover our estimated short-term and long-term funding needs, including amounts to construct, launch and insure replacement satellites, as well as fund future stock repurchases, future dividend payments and pursue strategic opportunities.

Our ability to meet our debt and other obligations depends on our future operating performance and on economic, financial, competitive and other factors. We continually review our operations for opportunities to adjust the timing of expenditures to ensure that sufficient resources are maintained.

We regularly evaluate our business plans and strategy. These evaluations often result in changes to our business plans and strategy, some of which may be material and significantly change our cash requirements. These changes in our business plans or strategy may include: the acquisition of unique or compelling programming; the development and introduction of new features or services; significant new or enhanced distribution arrangements; investments in infrastructure, such as satellites, equipment or radio spectrum; and acquisitions and investments, including acquisitions and investments that are not directly related to our existing business.

We may from time to time purchase our outstanding debt through open market purchases, privately negotiated transactions or otherwise. Purchases or retirement of debt, if any, will depend on prevailing market conditions, liquidity requirements, contractual restrictions and other factors. The amounts involved may be material.

Capital Return Program

As of December 31, 2020, our board of directors had authorized for repurchase an aggregate of $16,000 of our common stock. As of December 31, 2020, our cumulative repurchases since December 2012 under our stock repurchase program totaled 3,314 shares for $14,408, and $1,592 remained available for additional repurchases under our existing stock repurchase program authorization.

Shares of common stock may be purchased from time to time on the open market and in privately negotiated transactions, including in accelerated stock repurchase transactions and transactions with Liberty Media and its affiliates. We intend to fund the additional repurchases through a combination of cash on hand, cash generated by operations and future borrowings. The size and timing of any purchases will be based on a number of factors, including price and business and market conditions.

On January 28, 2021, our board of directors declared a quarterly dividend in the amount of $0.014641 per share of common stock payable on February 26, 2021 to stockholders of record as of the close of business on February 10, 2021. Our board of directors expects to declare regular quarterly dividends, in an aggregate annual amount of $0.058564 per share of common stock.

Debt Covenants

The indentures governing Sirius XM's senior notes and Pandora's convertible notes and the agreement governing the Sirius XM Credit Facility include restrictive covenants. As of December 31, 2020, we were in compliance with such covenants. For a discussion of our “Debt Covenants,” refer to Note 14 to our consolidated financial statements in Part II, Item 8, of this Annual Report on Form 10-K.

Off-Balance Sheet Arrangements

We do not have any significant off-balance sheet arrangements other than those disclosed in Note 17 to our consolidated financial statements in Part II, Item 8, of this Annual Report on Form 10-K that are reasonably likely to have a material effect on our financial condition, results of operations, liquidity, capital expenditures or capital resources.

Contractual Cash Commitments

For a discussion of our “Contractual Cash Commitments,” refer to Note 17 to our consolidated financial statements in Part II, Item 8, of this Annual Report on Form 10-K.

Related Party Transactions

For a discussion of “Related Party Transactions,” refer to Note 13 to our consolidated financial statements in Part II, Item 8, of this Annual Report on Form 10-K.

On February 1, 2021, Holdings entered into a tax sharing agreement with Liberty Media governing the allocation of consolidated U.S. income tax liabilities and setting forth agreements with respect to other tax matters. The tax sharing

agreement was negotiated and approved by a special committee of Holdings' board of directors, all of whom are independent of Liberty Media.

Under the Internal Revenue Code, two corporations may form a consolidated tax group, and file a consolidated federal income tax return, if one corporation owns stock representing at least 80% of the voting power and value of the outstanding capital stock of the other corporation. As of December 31, 2020, Liberty Media beneficially owned, directly and indirectly, approximately 76% of the outstanding shares of our common stock. We expect that Liberty Media could beneficially own, directly and indirectly, over 80% of the outstanding shares of our common stock at some time in 2021, and Holdings and Liberty Media would then become members of the same consolidated tax group. Should that happen, the tax sharing agreement would govern certain matters related to the resulting consolidated federal income tax returns, as well as state and local returns filed on a consolidated or combined basis.

The tax sharing agreement contains provisions that Holdings believes are customary for tax sharing agreements between members of a consolidated group. A copy of the tax sharing agreement has been filed as Exhibit 10.44 to this Annual Report on Form 10-K for the year ended December 31, 2020. The tax sharing agreement and our inclusion in Liberty Media's consolidated tax group is not expected to have any material adverse effect on us.

Critical Accounting Policies and Estimates

Our consolidated financial statements are prepared in accordance with GAAP, which requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities at the date of the financial statements and the reported amounts of revenues and expenses during the periods. Accounting estimates require the use of significant management assumptions and judgments as to future events, and the effect of those events cannot be predicted with certainty. The accounting estimates will change as new events occur, more experience is acquired and more information is obtained. We evaluate and update our assumptions and estimates on an ongoing basis and use outside experts to assist in that evaluation when we deem necessary. We have identified all significant accounting policies in Note 2 to our consolidated financial statements in Part II, Item 8, of this Annual Report on Form 10-K.

Intangible Assets and Purchase Accounting. We perform purchase price accounting upon an acquisition. We allocate the purchase consideration to the identifiable assets acquired and liabilities assumed based on their fair values at the acquisition date. The excess of the purchase consideration over the fair value of assets acquired and liabilities assumed is recorded as goodwill. The determination of the acquisition date fair value of the assets acquired and liabilities assumed required us to make significant estimates and assumptions regarding projected revenues and related growth rates, royalty rates, customer attrition rates, discount rates and the remaining useful lives of intangible and other long-term assets. Our intangible assets include goodwill, other indefinite-lived assets (our FCC licenses and trademarks) and definite-lived assets. Our annual impairment assessment of our goodwill and our indefinite-lived assets is performed as of the fourth quarter of each year. We also review our intangible assets for impairment whenever events or changes in circumstances indicate that the carrying amount of an asset is not recoverable. If an impairment exists, the impairment is measured as the amount by which the carrying amount of an intangible asset exceeds its estimated fair value.

- *Goodwill:* ASC 350, *Intangibles - Goodwill and Other*, states that an entity should perform its annual or interim goodwill impairment test by comparing the fair value of a reporting unit with its carrying amount and recognize an impairment charge for the amount by which the carrying amount exceeds the reporting unit's fair value. Under the updated guidance per Accounting Standards Update ("ASU") 2017-04, *Intangibles - Goodwill and Other (Topic 350): Simplifying the Test for Goodwill Impairment*, the requirements for any reporting unit with a zero or negative carrying amount to perform a qualitative assessment is eliminated. In accordance with updated guidance, we recognize goodwill impairment as the difference between the carrying amount of a reporting unit and its fair value, but not to exceed the carrying amount of goodwill.

  Based on our annual impairment test for goodwill as of October 1, 2020, we recognized an impairment charge of $956 to reduce the carrying amount of our Pandora reporting unit to its fair value. The impairment was primarily due to a reduction in the long-term forecast to reflect an increase in expected royalties for streaming, increased uncertainty surrounding the projected demand for advertising and a decrease of listening hours. Fair value was determined using a combination of an income approach, using a discounted cash flow model ("DCF"), and a market approach. The DCF model included significant assumptions about revenue growth rates, long-term growth rates and enterprise specific discount rates. Additionally, assumptions related to guideline company financial multiples used in the market approach decreased based on current market observations.

- *Indefinite-lived Assets:* ASC 350-30-35, *Intangibles - General Intangibles Other than Goodwill*, provides for an option to first perform a qualitative assessment to determine whether it is more likely than not that an asset is impaired. If the qualitative assessment supports that it is more likely than not that the fair value of the asset exceeds its carrying value, a company is not required to perform a quantitative impairment test. If the qualitative assessment does not support that the

fair value of the asset exceeds its carrying value, then a quantitative assessment is performed. We recognize impairment as the difference between the carrying amount of an asset and its estimated fair value.

Based on our annual impairment test for indefinite-lived assets as of October 1, 2020, we recognized an impairment charge of $20 to reduce the carrying amount of our Pandora trademark to its fair value. Fair value was determined using a discounted cash flow model. The DCF model included significant assumptions about revenue growth rates, long-term growth rates and enterprise specific discount rates.

• *Definite-lived Assets:* We carry our definite-lived assets at cost less accumulated amortization. We assess definite-lived assets for recoverability whenever events or changes in circumstances indicate that its carrying amount may not be recoverable. If an event or circumstance is identified indicating the carrying value may not be recoverable, the sum of future undiscounted cash flows is compared to the carrying value. If carrying value exceeds the future undiscounted cash flows, the carrying value of the asset is reduced to its fair value. The fair value of assets is determined as either the expected selling price less selling costs (where appropriate) or the present value of the estimated future cash flows, adjusted as necessary for market factors.

Useful Life of Broadcast/Transmission System. Our satellite system includes the costs of our satellite construction, launch vehicles, launch insurance, capitalized interest, spare satellites, terrestrial repeater network and satellite uplink facilities. We monitor our satellites for impairment whenever events or changes in circumstances indicate that the carrying amount of the asset is not recoverable.

We operate two in-orbit Sirius satellites, FM-5 and FM-6, which launched in 2009 and 2013, respectively, and estimate they will operate effectively through the end of their depreciable lives in 2024 and 2028, respectively.

We currently operate three in-orbit XM satellites, XM-3, XM-4 and XM-5. Our XM-3 satellite launched in 2005 reached the end of its depreciable life in 2020. We estimate that our XM-4 satellite launched in 2006 will reach the end of its depreciable life in 2021. We have entered into agreements for the design construction and launch of two satellites, SXM-7 and SXM-8. SXM-7 was launched into a geostationary orbit in December 2020. In-orbit testing of SXM-7 began on January 4, 2021. During in-orbit testing of SXM-7, events occurred which have caused failures of certain SXM-7 payload units. An evaluation of SXM-7 is underway. The full extent of the damage to SXM-7 is not yet known. SXM-8 is expected to be launched into a geostationary orbit in 2021. Our XM-5 satellite was launched in 2010, is used as an in-orbit spare for the Sirius and XM systems and is expected to reach the end of its depreciable life in 2025.

Our satellites have been designed to last fifteen-years. Our in-orbit satellites may experience component failures which could adversely affect their useful lives. We monitor the operating condition of our in-orbit satellites and if events or circumstances indicate that the depreciable lives of our in-orbit satellites have changed, we will modify the depreciable life accordingly. If we were to revise our estimates, our depreciation expense would change.

Income Taxes. Deferred income taxes are recognized for the tax consequences related to temporary differences between the carrying amount of assets and liabilities for financial reporting purposes and the amounts used for tax purposes, based on enacted tax laws and statutory tax rates applicable to the periods in which the differences are expected to affect taxable income.

We assess the recoverability of deferred tax assets at each reporting date and, where applicable, a valuation allowance is recognized when, based on the weight of all available evidence, it is considered more likely than not that all, or some portion, of the deferred tax assets will not be realized. Our assessment includes an analysis of whether deferred tax assets will be realized in the ordinary course of operations based on the available positive and negative evidence, including the scheduling of deferred tax liabilities and forecasted income from operations. The underlying assumptions we use in forecasting future taxable income require significant judgment. In the event that actual income from operations differs from forecasted amounts, or if we change our estimates of forecasted income from operations, we could record additional charges or reduce allowances in order to adjust the carrying value of deferred tax assets to their realizable amount. Such adjustments could be material to our consolidated financial statements.

As of December 31, 2020, we had a valuation allowance of $54 relating to deferred tax assets that are not more likely than not to be realized due to the timing of certain state net operating loss limitations and acquired net operating losses that were not likely to be utilized.

ASC 740, *Income Taxes*, requires a company to first determine whether it is more likely than not that a tax position will be sustained based on its technical merits as of the reporting date, assuming that taxing authorities will examine the position and have full knowledge of all relevant information. A tax position that meets this more likely than not threshold is then measured and recognized at the largest amount of benefit that is greater than fifty percent likely to be realized upon effective settlement with a taxing authority. If the tax position is not more likely than not to be sustained, the gross amount of the unrecognized tax position will not be recorded in the financial statements but will be shown in tabular format within the uncertain income tax positions. Changes in recognition or measurement are reflected in the period in which the change in judgment occurs due to the following conditions: (1) the tax position is “more likely than not” to be sustained, (2) the tax position, amount, and/or timing is

ultimately settled through negotiation or litigation, or (3) the statute of limitations for the tax position has expired. A number of years may elapse before an uncertain tax position is effectively settled or until there is a lapse in the applicable statute of limitations. We record interest and penalties related to uncertain tax positions in Income tax expense in our consolidated statements of comprehensive income. As of December 31, 2020, the gross liability for income taxes associated with uncertain tax positions was $433.

Glossary

Monthly active users - the number of distinct registered users on the Pandora services, including subscribers, which have consumed content within the trailing 30 days to the end of the final calendar month of the period. The number of monthly active users on the Pandora services may overstate the number of unique individuals who actively use our Pandora service, as one individual may use multiple accounts. To become a registered user on the Pandora services, a person must sign-up using an email address or phone number, or access our service using a device with a unique identifier, which we use to create an account for our service.

Average self-pay monthly churn - the Sirius XM monthly average of self-pay deactivations for the period divided by the average number of self-pay subscribers for the period.

Adjusted EBITDA - EBITDA is defined as net income before interest expense, income tax expense and depreciation and amortization. We adjust EBITDA to exclude the impact of other expense (income) as well as certain other charges discussed below. Adjusted EBITDA is a Non-GAAP financial measure that excludes or adjusts for (if applicable): (i) certain adjustments as a result of the purchase price accounting for the XM Merger and the Pandora Acquisition, (ii) predecessor net income adjusted for certain expenses, including depreciation and amortization, other income (loss), and share-based payment expense for January 2019, (iii) share-based payment expense, (iv) impairment charges and (v) other significant operating expense (income) that do not relate to the on-going performance of our business. We believe adjusted EBITDA is a useful measure of the underlying trend of our operating performance, which provides useful information about our business apart from the costs associated with our capital structure and purchase price accounting. We believe investors find this Non-GAAP financial measure useful when analyzing our past operating performance with our current performance and comparing our operating performance to the performance of other communications, entertainment and media companies. We believe investors use adjusted EBITDA to estimate our current enterprise value and to make investment decisions. As a result of large capital investments in our satellite radio system, our results of operations reflect significant charges for depreciation expense. We believe the exclusion of share-based payment expense is useful as it is not directly related to the operational conditions of our business. We also believe the exclusion of the legal settlements and reserves, acquisition related costs, and loss on extinguishment of debt, to the extent they occur during the period, is useful as they are significant expenses not incurred as part of our normal operations for the period.

Adjusted EBITDA has certain limitations in that it does not take into account the impact to our consolidated statements of comprehensive income of certain expenses, including share-based payment expense and certain purchase price accounting for the XM Merger and the Pandora Acquisition. We endeavor to compensate for the limitations of the Non-GAAP measure presented by also providing the comparable GAAP measure with equal or greater prominence and descriptions of the reconciling items, including quantifying such items, to derive the Non-GAAP measure. Investors that wish to compare and evaluate our operating results after giving effect for these costs, should refer to net income as disclosed in our consolidated statements of comprehensive income. Since adjusted EBITDA is a Non-GAAP financial performance measure, our calculation of adjusted EBITDA may be susceptible to varying calculations; may not be comparable to other similarly titled measures of other companies; and should not be considered in isolation, as a substitute for, or superior to measures of financial performance prepared in accordance with GAAP. The reconciliation of net income to the adjusted EBITDA is calculated as follows:

	For the Years Ended December 31,		
	2020	2019	2018
Net income:	$ 131	$ 914	$ 1,176
Add back items excluded from Adjusted EBITDA:			
Legal settlements and reserves	(16)	25	69
Acquisition and restructuring costs [1]	28	84	3
Share-based payment expense [3]	223	229	133
Depreciation and amortization	506	468	301
Impairment charges	976	—	—
Interest expense	394	390	350
Loss on extinguishment of debt	40	57	—
Other (income) expense	(6)	3	(44)
Income tax expense	299	283	245
Purchase price accounting adjustments:			
Revenues	6	13	7
Operating expenses	(6)	(14)	—
Pro forma adjustments [2]	—	(25)	(109)
Adjusted EBITDA	$ 2,575	$ 2,427	$ 2,131

(1) Acquisition and restructuring costs include $21 of share-based compensation expense for the year ended December 31, 2019.

(2) Pro forma adjustment for year ended December 31, 2019 includes Pandora's Net income for the year ended December 31, 2019 of $(44) plus Depreciation and amortization of $6, Share-based payment expense of $11, Acquisition and other related costs of $1, and Interest expense of $2, offset by Other income of $1. Pro forma adjustment for year ended December 31, 2018 includes Pandora's Net income for the year ended December 31, 2018 of $(328) plus Depreciation and amortization of $61, Share-based payment expense of $111, Loss on extinguishment of debt of $17, Interest expense of $27, transaction related costs recorded by Pandora related to its acquisition by Sirius XM of $12, and contract termination fees of $6, offset by Other income of $7 and Income tax benefit of $8.

(3) Allocation of share-based payment expense:

	For the Years Ended December 31,		
(in millions)	2020	2019	2018
Programming and content	$ 32	$ 30	28
Customer service and billing	6	4	4
Transmission	6	10	5
Sales and marketing	68	78	25
Engineering, design and development	43	49	17
General and administrative	68	58	54
Total share-based payment expense	$ 223	$ 229	133

Free cash flow - is derived from cash flow provided by operating activities, net of additions to property and equipment and purchases of other investments. Free cash flow is a metric that our management and board of directors use to evaluate the cash generated by our operations, net of capital expenditures and other investment activity. In a capital intensive business, with significant investments in satellites, we look at our operating cash flow, net of these investing cash outflows, to determine cash available for future subscriber acquisition and capital expenditures, to repurchase or retire debt, to acquire other companies and to evaluate our ability to return capital to stockholders. We exclude from free cash flow certain items that do not relate to the on-going performance of our business, such as cash flows related to acquisitions, strategic and short-term investments, and net loan activity with related parties and other equity investees. We believe free cash flow is an indicator of the long-term financial stability of our business. Free cash flow, which is reconciled to "Net cash provided by operating activities," is a Non-GAAP financial measure. This measure can be calculated by deducting amounts under the captions "Additions to property and equipment" and deducting or adding Restricted and other investment activity from "Net cash provided by operating activities" from the consolidated statements of cash flows. Free cash flow should be used in conjunction with other GAAP financial performance measures and may not be comparable to free cash flow measures presented by other companies. Free cash flow should be viewed as a supplemental measure rather than an alternative measure of cash flows from operating activities, as determined in accordance with GAAP. Free cash flow is limited and does not represent remaining cash flows available for discretionary expenditures due to the fact that the measure does not deduct the payments required for debt maturities. We believe free cash flow provides useful supplemental information to investors regarding our current cash flow, along with other GAAP measures (such as cash flows from operating and investing activities), to determine our financial condition, and to compare our operating performance to other communications, entertainment and media companies. Free cash flow is calculated as follows:

	For the Years Ended December 31,		
	2020	2019	2018
Cash Flow information			
Net cash provided by operating activities	$ 2,018	$ 2,017	$ 1,880
Net cash used in investing activities	$ (741)	$ (3)	$ (379)
Net cash used in financing activities	$ (1,314)	$ (1,959)	$ (1,515)
Free Cash Flow			
Net cash provided by operating activities	$ 2,018	$ 2,017	$ 1,880
Additions to property and equipment	(350)	(363)	(355)
Purchases of other investments	(8)	(7)	(8)
Free cash flow	$ 1,660	$ 1,647	$ 1,517

ARPU - Sirius XM ARPU is derived from total earned subscriber revenue (excluding revenue associated with our connected vehicle services) and advertising revenue, divided by the number of months in the period, divided by the daily weighted average number of subscribers for the period. Pandora ARPU is defined as average monthly subscriber revenue per paid subscriber on our Pandora subscription services.

Subscriber acquisition cost, per installation - or SAC, per installation, is derived from subscriber acquisition costs less margins from the sale of radios and accessories (excluding connected vehicle services), divided by the number of satellite radio installations in new vehicles and shipments of aftermarket radios for the period. SAC, per installation, is calculated as follows:

	For the Years Ended December 31,		
	2020	2019	2018
Subscriber acquisition costs, excluding connected vehicle services	$ 362	$ 427	$ 470
Less: margin from sales of radios and accessories, excluding connected vehicle services	(154)	(144)	(122)
	$ 208	$ 283	$ 348
Installations	11,091	12,355	13,563
SAC, per installation [(a)]	$ 18.65	$ 22.91	$ 25.66

(a) Amounts may not recalculate due to rounding.

Ad supported listener hours - is based on the total bytes served over our Pandora advertising supported platforms for each track that is requested and served from our Pandora servers, as measured by our internal analytics systems, whether or not a listener listens to the entire track. For non-music content such as podcasts, episodes are divided into approximately track-length parts, which are treated as tracks. To the extent that third-party measurements of advertising hours are not calculated using a similar server-based approach, the third-party measurements may differ from our measurements.

RPM - is calculated by dividing advertising revenue, excluding AdsWizz and other off-platform revenue, by the number of thousands of listener hours on our Pandora advertising-based service.

LPM - is calculated by dividing advertising licensing costs by the number of thousands of listener hours on our Pandora advertising-based service.

LPU - is calculated by dividing subscriber licensing costs by the number of paid subscribers on our Pandora subscription services.

ITEM 7A. ***QUANTITATIVE AND QUALITATIVE DISCLOSURE ABOUT MARKET RISK***

As of December 31, 2020, we did not hold or issue any derivatives. We hold investments in money market funds and certificates of deposit. These securities are consistent with the objectives contained within our investment policy. The basic objectives of our investment policy are the preservation of capital, maintaining sufficient liquidity to meet operating requirements and maximizing yield.

As of December 31, 2020, we also held the following investment:

In connection with the recapitalization of Sirius XM Canada on May 25, 2017, we loaned Sirius XM Canada $130.8 million. The loan is considered a long-term investment with any unrealized gains or losses reported within Accumulated other comprehensive (loss) income. The loan has a term of fifteen years, bears interest at a rate of 7.62% per annum and includes customary covenants and events of default, including an event of default relating to Sirius XM Canada's failure to maintain specified leverage ratios. The carrying value of the loan as of December 31, 2020 was $122.7 million and approximated its fair value. The loan is denominated in Canadian dollars and it is subject to changes in foreign currency. Had the Canadian to U.S. dollar exchange rate been 10% lower as of December 31, 2020, the value of this loan would have been approximately $12.3 million lower.

Our debt includes fixed rate instruments and the fair market value of our debt is sensitive to changes in interest rates. Sirius XM's borrowings under the Credit Facility carry a variable interest rate, which is currently based on LIBOR, plus an applicable rate based on its debt to operating cash flow ratio. We currently do not use interest rate derivative instruments to manage our exposure to interest rate fluctuations.

ITEM 8. ***FINANCIAL STATEMENTS AND SUPPLEMENTARY DATA***

See the Index to Consolidated Financial Statements and financial statements and financial statement schedule contained in Part IV, Item 15, herein, which are incorporated herein by reference.

ITEM 9. ***CHANGES IN AND DISAGREEMENTS WITH ACCOUNTANTS ON ACCOUNTING AND FINANCIAL DISCLOSURE***

None.

ITEM 9A. ***CONTROLS AND PROCEDURES***

Controls and Procedures

We maintain disclosure controls and procedures that are designed to ensure that information required to be disclosed in our reports under the Exchange Act is recorded, processed, summarized and reported within the time periods specified in the Securities and Exchange Commission's rules and forms, and that such information is accumulated and communicated to our management, including our principal executive officer and principal financial officer, as appropriate, to allow timely decisions regarding required disclosures. Any controls and procedures, no matter how well designed and operated, can provide only reasonable assurance of achieving the desired control objectives. An evaluation was performed under the supervision and with the participation of our management, including Jennifer C. Witz, our Chief Executive Officer, and Sean S. Sullivan, our Executive Vice President and Chief Financial Officer, of the effectiveness of the design and operation of our disclosure controls and procedures (as that term is defined in Rule 13a-15(e) and 15d-15(e) under the Exchange Act) as of December 31, 2020. Based on that evaluation, our management, including our Chief Executive Officer and our Chief Financial Officer, concluded that our disclosure controls and procedures were effective as of December 31, 2020 at the reasonable assurance level.

We acquired Pandora in February 2019. Except for the changes in internal controls at Pandora, there has been no change in our internal control over financial reporting (as that term is defined in Rule 13a-15(f) and 15d-15(f) under the Exchange Act) during the year ended December 31, 2020 that has materially affected, or is reasonably likely to materially affect, our internal control over financial reporting.

Management's Report on Internal Control over Financial Reporting

Our management is responsible for establishing and maintaining adequate internal control over financial reporting as defined in Rule 13a-15(f) and 15d-15(f) under the Exchange Act. We have performed an evaluation under the supervision and with the participation of our management, including our Chief Executive Officer and our Chief Financial Officer, of the effectiveness of our internal control over financial reporting. Our management used the Internal Control-Integrated Framework (*2013*) issued by the Committee of Sponsoring Organizations of the Treadway Commission to perform this evaluation. Based

on that evaluation, our management, including our Chief Executive Officer and Chief Financial Officer, concluded that our internal control over financial reporting was effective as of December 31, 2020.

KPMG LLP, an independent registered public accounting firm, which has audited and reported on the consolidated financial statements contained in this Annual Report on Form 10-K, has issued its report on the effectiveness of our internal control over financial reporting.

Audit Report of the Independent Registered Public Accounting Firm

The effectiveness of our internal control over financial reporting as of December 31, 2020 has been audited by KPMG LLP, an independent registered public accounting firm, as stated in their audit report appearing on page F-4 of this Annual Report on Form 10-K.

ITEM 9B. *OTHER INFORMATION*

On February 1, 2021, Holdings entered into a tax sharing agreement with Liberty Media governing the allocation of consolidated U.S. income tax liabilities and setting forth agreements with respect to other tax matters. The tax sharing agreement was negotiated and approved by a special committee of Holdings' board of directors, all of whom are independent of Liberty Media.

Under the Internal Revenue Code, two corporations may form a consolidated tax group, and file a consolidated federal income tax return, if one corporation owns stock representing at least 80% of the voting power and value of the outstanding capital stock of the other corporation. As of December 31, 2020, Liberty Media beneficially owned, directly and indirectly, approximately 76% of the outstanding shares of our common stock. We expect that Liberty Media could beneficially own, directly and indirectly, over 80% of the outstanding shares of our common stock at some time in 2021, and Holdings and Liberty Media would then become members of the same consolidated tax group. Should that happen, the tax sharing agreement would govern certain matters related to the resulting consolidated federal income tax returns, as well as state and local returns filed on a consolidated or combined basis.

The tax sharing agreement contains provisions that Holdings believes are customary for tax sharing agreements between members of a consolidated group. A copy of the tax sharing agreement has been filed as Exhibit 10.44 to this Annual Report on Form 10-K for the year ended December 31, 2020. The tax sharing agreement and our inclusion in Liberty Media's consolidated tax group is not expected to have any material adverse effect on us.

PART III

ITEM 10. *DIRECTORS, EXECUTIVE OFFICERS AND CORPORATE GOVERNANCE*

Information about our executive officers is contained in the discussion entitled "Information About Our Executive Officers" in Part I of this Annual Report on Form 10-K.

The additional information required by this Item 10 is incorporated in this report by reference to the applicable information in our definitive proxy statement for the 2021 annual meeting of stockholders set forth under the captions *Stock Ownership*, *Governance of the Company, Item 1. Election of Directors* and *Item 2. Ratification of Independent Registered Public Accountants*, which we expect to file with the Securities and Exchange Commission prior to April 30, 2021.

Code of Ethics

We have adopted a code of ethics that applies to all employees, including executive officers, and to directors. The Code of Ethics is available on the Corporate Governance page of our website at *www.siriusxm.com.* If we ever were to amend or waive any provision of our Code of Ethics that applies to our principal executive officer, principal financial officer, principal accounting officer or any person performing similar functions, we intend to satisfy our disclosure obligations with respect to any such waiver or amendment by posting such information on our internet website set forth above rather than filing a Form 8-K.

ITEM 11. *EXECUTIVE COMPENSATION*

The information required by this Item 11 is incorporated in this report by reference to the applicable information in our definitive proxy statement for the 2021 annual meeting of stockholders set forth under the captions *Item 1. Election of Directors* and *Executive Compensation*, which we expect to file with the Securities and Exchange Commission prior to April 30, 2021.

ITEM 12. *SECURITY OWNERSHIP OF CERTAIN BENEFICIAL OWNERS AND MANAGEMENT AND RELATED STOCKHOLDER MATTERS*

Certain information required by this Item 12 is set forth under the heading "Equity Compensation Plan Information" in Part II, Item 5, of this Annual Report on Form 10-K.

The additional information required by this Item 12 is incorporated in this report by reference to the applicable information in our definitive proxy statement for the 2021 annual meeting of stockholders set forth under the caption *Stock Ownership*, which we expect to file with the Securities and Exchange Commission prior to April 30, 2021.

ITEM 13. *CERTAIN RELATIONSHIPS AND RELATED TRANSACTIONS AND DIRECTOR INDEPENDENCE*

The information required by this Item 13 is incorporated in this report by reference to the applicable information in our definitive proxy statement for the 2021 annual meeting of stockholders set forth under the captions *Governance of the Company* and *Item 1. Election of Directors*, which we expect to file with the Securities and Exchange Commission prior to April 30, 2021.

ITEM 14. *PRINCIPAL ACCOUNTANT FEES AND SERVICES*

The information required by this Item 14 is incorporated in this report by reference to the applicable information in our definitive proxy statement for the 2021 annual meeting of stockholders set forth under the caption *Item 2. Ratification of Independent Registered Public Accountants - Principal Accountant Fees and Services*, which we expect to file with the Securities and Exchange Commission prior to April 30, 2021.

PART IV

ITEM 15. *EXHIBITS AND FINANCIAL STATEMENT SCHEDULES*

Documents filed as part of this report:

(1) Financial Statements. See Index to Consolidated Financial Statements appearing on page F-1.

(2) Financial Statement Schedules. See Index to Consolidated Financial Statements appearing on page F-1.

(3) Exhibits. See Exhibit Index, which is incorporated herein by reference.

ITEM 16. *FORM 10-K SUMMARY*

None.

EXHIBIT INDEX

Exhibit	Description
2.1	Certificate of Ownership and Merger, dated as of January 12, 2011, merging XM Satellite Radio Inc. with and into Sirius XM Radio Inc. (incorporated by reference to Exhibit 3.1 to Sirius XM Radio Inc.'s Current Report on Form 8-K filed on January 12, 2011 (File No. 001-34295)).
2.2	Agreement and Plan of Merger, dated as of November 14, 2013, by and among Sirius XM Radio Inc., Sirius XM Holdings Inc. and Sirius XM Merger Sub Inc. (incorporated by reference to Exhibit 2.1 to Sirius XM Holdings Inc.'s Current Report on Form 8-K filed on November 15, 2013 (File No. 001-34295)).
2.3	Agreement and Plan of Merger and Reorganization by and among Sirius XM Holdings Inc., Pandora Media, Inc. and White Oaks Acquisition Corp., dated as of September 23, 2018 (incorporated by reference to Exhibit 2.1 to Sirius XM Holdings Inc.'s Current Report on Form 8-K filed on September 24, 2018 (File No. 001-34295)).
3.1	Amended and Restated Certificate of Incorporation of Sirius XM Holdings Inc. (incorporated by reference to Exhibit 3.1 to Sirius XM Holdings Inc.'s Current Report on Form 8-K filed on November 15, 2013 (File No. 001-34295)).
3.2	Amended and Restated By-Laws of Sirius XM Holdings Inc. (incorporated by reference to Exhibit 3.2 to Sirius XM Holdings Inc.'s Current Report on Form 8-K filed on November 15, 2013 (File No. 001-34295)).
4.1	Form of certificate for shares of Sirius XM Holdings Inc.'s common stock (incorporated by reference to Exhibit 4.1 to Sirius XM Holdings Inc.'s Annual Report on Form 10-K for the year ended December 31, 2013 (File No. 001-34295)).
4.2	Indenture, dated as of May 23, 2016, among Sirius XM Radio Inc., the guarantors named therein and U.S. Bank National Association, as a trustee, relating to the 5.375% Senior Notes due 2026 (incorporated by reference to Exhibit 4.1 to Sirius XM Holdings Inc.'s Current Report on Form 8-K filed on May 24, 2016 (File No. 001-34295)).
4.3	Indenture, dated as of July 5, 2017, among Sirius XM Radio Inc., the guarantors named therein and U.S. Bank National Association, as trustee, relating to the 3.875% Senior Notes due 2022 (incorporated by reference to Exhibit 4.1 to Sirius XM Holdings Inc.'s Current Report on Form 8-K filed on July 5, 2017 (File No. 001-34295)).
4.4	Indenture, dated as of July 5, 2017, among Sirius XM Radio Inc., the guarantors named therein and U.S. Bank National Association, as trustee, relating to the 5.000% Senior Notes due 2027 (incorporated by reference to Exhibit 4.2 to Sirius XM Holdings Inc.'s Current Report on Form 8-K filed on July 5, 2017 (File No. 001-34295)).
4.5	Indenture, dated as of July 2, 2019, among Sirius XM Radio Inc., the guarantors named therein and U.S. Bank National Association, as trustee, relating to the 4.625% Senior Notes due 2024 (incorporated by reference to Exhibit 4.1 to Sirius XM Holdings Inc.'s Current Report on Form 8-K filed on July 2, 2019 (File No. 001-34295)).
4.6	Indenture, dated as of June 7, 2019, among Sirius XM Radio Inc., the guarantors named therein and U.S. Bank National Association, as trustee, relating to the 5.500% Senior Notes due 2029 (incorporated by reference to Exhibit 4.1 to Sirius XM Holdings Inc.'s Current Report on Form 8-K filed on June 7, 2019 (File No. 001-34295)).
4.7	First Supplemental Indenture, dated as of January 31, 2019, relating to the 1.75% Convertible Senior Notes due 2023, between Pandora Media, Inc. and Citibank, N.A., as trustee (incorporated by reference to Exhibit 4.1 to Sirius XM Holdings Inc.'s Current Report on Form 8-K filed on January 31, 2019 (File No. 001-34295)).
4.8	Third Supplemental Indenture, dated as of February 1, 2019, relating to the 1.75% Convertible Senior Notes due 2023, among Pandora Media, LLC (f/k/a Pandora Media, Inc.), Sirius XM Holdings Inc. and Citibank, N.A. as trustee ((incorporated by reference to Exhibit 4.1 to Sirius XM Holdings Inc.'s Current Report on Form 8-K filed on February 1, 2019 (File No. 001-34295)).
4.9	Indenture, dated as of June 11, 2020, relating to the 4.125% Senior Notes due 2030, among Sirius XM Radio Inc., the guarantors named therein and U.S. Bank National Association, as trustee, including the form of 4.125% Senior Notes due 2030 (incorporated by reference to Exhibit 4.1 to Sirius XM Holdings Inc.'s Current Report on Form 8-K dated June 11, 2020 (File No. 001-34295)).
4.10	Investment Agreement, dated as of February 17, 2009, between Sirius XM Radio Inc. and Liberty Radio LLC (incorporated by reference to Exhibit 4.55 to Sirius XM Radio Inc.'s Annual Report on Form 10-K for the year ended December 31, 2008 (File No. 001-34295)).
4.11	Assignment and Assumption of Investment Agreement among Sirius XM Radio Inc., Sirius XM Holdings Inc. and Liberty Radio LLC, dated as of November 15, 2013 (incorporated by reference to Exhibit 4.15 to Sirius XM Holdings Inc.'s Annual Report on Form 10-K for the year ended December 31, 2013 (File No. 001-34295)).
4.12	Description of Registrant's Securities (incorporated by reference to Exhibit 4.15 to Sirius XM Holdings Inc.'s Annual Report on Form 10-K for the year ended December 31, 2019 (File No. 001-34295)).

Exhibit	Description
10.1	Credit Agreement, dated as of December 5, 2012, among Sirius XM Radio Inc., JPMorgan Chase Bank, N.A. as administrative agent, and the other agents and lenders party thereto (incorporated by reference to Exhibit 10.1 to Sirius XM Radio Inc.'s Current Report on Form 8-K filed on December 10, 2012 (File No. 001-34295)).
10.2	Amendment No. 1, dated as of April 22, 2014, to the Credit Agreement, dated as of December 5, 2012, among Sirius XM Radio Inc., the Lenders party thereto and JPMorgan Chase Bank, N.A. as administrative agent for the Lenders, as collateral agent for the Secured Parties and as an Issuing Bank (incorporated by reference to Exhibit 10.1 to Sirius XM Holdings Inc.'s Current Report on Form 8-K filed on April 22, 2014 (File No. 001-34295)).
10.3	Amendment No. 2, dated as of June 16, 2015, to the Credit Agreement, dated as of December 5, 2012, among Sirius XM Radio Inc., JPMorgan Chase Bank, N.A., as administrative agent, and the other agents and lenders parties thereto (incorporated by reference to Exhibit 10.1 to Sirius XM Holdings Inc.'s Current Report on Form 8-K filed on June 19, 2015 (File No. 001-34295)).
10.4	Amendment No. 3, dated as of June 29, 2018, to the Credit Agreement, dated as of December 5, 2012, among Sirius XM Radio Inc., JPMorgan Chase Bank, N.A., as administrative agent, and the other agents and lenders parties thereto (incorporated by reference to Exhibit 10.1 to Sirius XM Holdings Inc.'s Current Report on Form 8-K filed on July 3, 2018 (File No. 001-34295)).
**10.5	Technology Licensing Agreement among XM Satellite Radio Inc., XM Satellite Radio Holdings Inc., WorldSpace Management Corporation and American Mobile Satellite Corporation, dated as of January 1, 1998, amended by Amendment No. 1 to Technology Licensing Agreement (incorporated by reference to Exhibit 10.4 to Amendment No. 1 to XM Satellite Radio Holdings Inc.'s Registration Statement on Form S-1 (File No. 333-83619)).
*10.6	Amended and Restated Sirius Satellite Radio 2003 Long-Term Stock Incentive Plan (incorporated by reference to Exhibit 10.10 to Sirius XM Radio Inc.'s Quarterly Report on Form 10-Q for the quarter ended June 30, 2004 (File No. 001-34295)).
*10.7	XM Satellite Radio Holdings Inc. 2007 Stock Incentive Plan (incorporated by reference to Exhibit 10.5 to XM Satellite Radio Holdings Inc.'s Quarterly Report on Form 10-Q for the quarter ended June 30, 2007 (File No. 000-27441)).
*10.8	Form of Non-Qualified Stock Option Agreement pursuant to the XM Satellite Radio Holdings Inc. 2007 Stock Incentive Plan (incorporated by reference to Exhibit 10.2 to XM Satellite Radio Holdings Inc.'s Current Report on Form 8-K filed June 1, 2007 (File No. 000-27441)).
*10.9	Form of Restricted Stock Agreement pursuant to the XM Satellite Radio Holdings Inc. 2007 Stock Incentive Plan (incorporated by reference to Exhibit 10.3 to XM Satellite Radio Holdings Inc.'s Current Report on Form 8-K filed June 1, 2007 (File No. 000-27441)).
*10.10	Sirius XM Radio 401(k) Savings Plan, January 1, 2009 Restatement (incorporated by reference to Exhibit 10.30 to Sirius XM Radio Inc.'s Annual Report on Form 10-K for the year ended December 31, 2009 (File No. 001-34295)).
*10.11	Sirius XM Radio Inc. 2009 Long-Term Stock Incentive Plan (incorporated by reference to Exhibit 4.9 to Sirius XM Radio Inc.'s Registration Statement on Form S-8 (File No. 333-160386)).
*10.12	Sirius XM Holdings Inc. 2015 Long-Term Stock Incentive Plan (incorporated by reference to Appendix A to Sirius XM Holdings Inc.'s definitive Proxy Statement on Schedule 14A filed on April 6, 2015 (File No. 001-34295)).
*10.13	Form of Director Non-Qualified Stock Option Agreement pursuant to the Sirius XM Radio Inc. 2009 Long-Term Stock Incentive Plan (incorporated by reference to Exhibit 10.34 to Sirius XM Radio Inc.'s Annual Report on Form 10-K for the year ended December 31, 2011 (File No. 001-34295)).
*10.14	Form of Director Non-Qualified Stock Option Agreement pursuant to the Sirius XM Holdings Inc. 2009 Long-Term Stock Incentive Plan (incorporated by reference to Exhibit 10.18 to Sirius XM Holdings Inc.'s Annual Report for the year ended December 31, 2014 (File No. 001-34295)).
*10.15	Form of Non-Qualified Stock Option Agreement pursuant to the Sirius XM Radio Inc. 2009 Long-Term Stock Incentive Plan (incorporated by reference to Exhibit 10.35 to Sirius XM Radio Inc.'s Annual Report on Form 10-K for the year ended December 31, 2011 (File No. 001-34295)).
*10.16	Form of Non-Qualified Stock Option Agreement pursuant to the Sirius XM Holdings Inc. 2009 Long-Term Stock Incentive Plan (incorporated by reference to Exhibit 10.20 to Sirius XM Holdings Inc.'s Annual Report filed for the year ended December 31, 2014 (File No. 001-34295)).
*10.17	Form of Director Non-Qualified Stock Option Agreement pursuant to the Sirius XM Holdings Inc. 2015 Long-Term Stock Incentive Plan (incorporated by reference to Exhibit 10.22 to Sirius XM Holdings Inc.'s Annual Report on Form 10-K for the year ended December 31, 2015 (File No. 001-34295)).

Exhibit	Description
*10.18	Form of Non-Qualified Stock Option Agreement pursuant to the Sirius XM Holdings Inc. 2015 Long-Term Stock Incentive Plan (incorporated by reference to Exhibit 10.23 to Sirius XM Holdings Inc.'s Annual Report on Form 10-K for the year ended December 31, 2015 (File No. 001-34295)).
*10.19	Form of SVP Restricted Stock Unit Agreement pursuant to the Sirius XM Holdings Inc. 2015 Long-Term Stock Incentive Plan (incorporated by reference to Exhibit 10.24 to Sirius XM Holdings Inc.'s Annual Report on Form 10-K for the year ended December 31, 2016 (001-34295)).
*10.20	Form of Performance-Based Restricted Stock Unit Agreement pursuant to the Sirius XM Holdings Inc. 2015 Long-Term Stock Incentive Plan (incorporated by reference to Exhibit 10.25 to Sirius XM Holdings Inc.'s Annual Report on Form 10-K for the year ended December 31, 2016 (001-34295)).
*10.21	Form of SVP Non-Qualified Stock Option Agreement pursuant to the Sirius XM Holdings Inc. 2015 Long-Term Stock Incentive Plan (incorporated by reference to Exhibit 10.26 to Sirius XM Holdings Inc.'s Annual Report on Form 10-K for the year ended December 31, 2016 (001-34295)).
*10.22	Employment Agreement, dated as of May 31, 2018, between Sirius XM Radio Inc. and Dara F Altman (incorporated by reference to Exhibit 10.1 to Sirius XM Holdings Inc.'s Current Report on Form 8-K filed on June 5, 2018 (File No. 001-34295)).
*10.23	Employment Agreement, dated as of June 29, 2015, between Sirius XM Radio Inc. and James A. Cady (incorporated by reference to Exhibit 10.1 to Sirius XM Holdings Inc.'s Current Report on Form 8-K filed on June 30, 2015 (File No. 001-34295)).
*10.24	Amendment to the Employment Agreement between Sirius XM Radio Inc. and James A Cady, dated as of February 23, 2016 (incorporated by reference to Exhibit 10.1 to Sirius XM Holdings Inc.'s Quarterly Report on Form 10-Q for the quarter ended March 31, 2016 (File No. 001-34295)).
*10.25	Employment Agreement, dated as of June 1, 2018, between Sirius XM Radio Inc. and David J. Frear (incorporated by reference to Exhibit 10.2 to Sirius XM Holdings Inc.'s Current Report on Form 8-K filed on June 5, 2018 (File No. 001-34295)).
*10.26	Form of Option Award Agreement between Sirius XM Radio Inc. and James E. Meyer (incorporated by reference to Exhibit 10.1 to Sirius XM Radio Inc.'s Current Report on Form 8-K filed October 16, 2009 (File No. 001-34295)).
*10.27	Employment Agreement, dated December 24, 2018 between Sirius XM Radio Inc. and Scott A. Greenstein (incorporated by reference to Exhibit 10.1 to Sirius XM Holdings Inc.'s Current Report on Form 8-K filed on December 26, 2018 (File No. 001-34295)).
*10.28	Employment Agreement, dated as of November 22, 2016 between Sirius XM Radio Inc. and Patrick L. Donnelly (incorporated by reference to Exhibit 10.37 to Sirius XM Holdings Inc.'s Annual Report on Form 10-K for the year ended December 31, 2016 (File No. 001-34295)).
*10.29	Employment Agreement, dated as of August 21, 2017 between Sirius XM Radio Inc. and Jennifer Witz (incorporated by reference to Exhibit 10.30 to Sirius XM Holdings Inc.'s Annual Report on Form 10-K for the year ended December 31, 2017 (File No. 001-34295)).
*10.30	Employment Agreement, dated August 16, 2018, between Sirius XM Radio Inc. and James E. Meyer (incorporated by reference to Exhibit 10.1 to Sirius XM Holdings Inc.'s Current Report on Form 8-K filed on August 16, 2018 (File No. 001-34295)).
*10.31	Letter agreement, dated August 16, 2018, regarding use of private aircraft between Sirius XM Radio Inc. and James E. Meyer (incorporated by reference to Exhibit 10.2 to Sirius XM Holdings Inc.'s Current Report on Form 8-K filed on August 16, 2018 (File No. 001-34295)).
*10.32	Employment Agreement, dated as of March 5, 2019 between Sirius XM Radio Inc. and Jennifer Witz (incorporated by reference to Exhibit 10.1 to Sirius XM Holdings Inc.'s Current Report on Form 8-K filed on March 6, 2019 (File No. 001-34295)).
*10.33	Employment Agreement, dated as of September 14, 2020 between Sirius XM Radio Inc. and Jennifer Witz (incorporated by reference to Exhibit 10.1 to Sirius XM Holdings Inc.'s Current Report on Form 8-K filed on September 15, 2020 (File No. 001-34295)).
*10.34	Letter Agreement, dated September 14, 2020, regarding private use of aircraft between Sirius XM Radio Inc. and Jennifer C. Witz (incorporated by reference to Exhibit 10.2 to Sirius XM Holdings Inc.'s Current Report on Form 8-K filed September 15, 2020 (File No. 001-34295)).
*10.35	Employment Agreement, dated as of September 14, 2020, between Sirius XM Radio Inc. and Sean S. Sullivan (incorporated by reference to Exhibit 10.3 to Sirius XM Holdings Inc.'s Current Report on Form 8-K filed September 15, 2020 (File No. 001-34295)).

Exhibit	Description
*10.36	Employment Agreement, dated as of December 27, 2020 between Sirius XM Radio Inc. and Scott A. Greenstein (incorporated by reference to Exhibit 10.1 to Sirius XM Holdings Inc.'s Current Report on Form 8-K filed on December 8, 2020 (File No. 001-34295)).
*10.37	Agreement and Release, dated as of September 21, 2020 between Sirius XM Radio Inc. and David J. Frear (filed herewith).
*10.38	Consulting Agreement, dated as of January 1, 2021 between Sirius XM Radio Inc. and James E Meyer (filed herewith).
*10.39	Letter Agreement, dated March 5, 2019, between Sirius XM Radio Inc. and Stephen R. Cook (incorporated by reference to Exhibit 10.2 to Sirius XM Holdings Inc.'s Current Report on Form 8-K filed on March 6, 2019 (File No. 001-34295)).
*10.40	Letter Agreement, dated March 5, 2019, between Sirius XM Radio Inc. and Joseph A. Verbrugge (incorporated by reference to Exhibit 10.3 to Sirius XM Holdings Inc.'s Current Report on Form 8-K filed on March 6, 2019 (File No. 001-34295)).
*10.41	Assignment and Assumption Agreement, dated as of November 15, 2013, among Sirius XM Holdings Inc. and Sirius XM Radio Inc. (incorporated by reference to Exhibit 10.1 to Sirius XM Holdings Inc.'s Current Report on Form 8-K filed on November 15, 2013 (File No. 001-34295)).
*10.42	Omnibus Amendment, dated November 15, 2013, to the XM Satellite Radio Holdings Inc. Talent Option Plan, the XM Satellite Radio Holdings Inc. 1998 Shares Award Plan, as amended, the Amended and Restated Sirius Satellite Radio 2003 Long-Term Stock Incentive Plan, the XM Satellite Radio Holdings Inc. 2007 Stock Incentive Plan and the Sirius XM Radio Inc. 2009 Long-Term Stock Incentive Plan and their Related Stock Option Agreements, Restricted Stock Agreements and Restricted Stock Unit Agreements (incorporated by reference to Exhibit 10.2 to Sirius XM Holdings Inc.'s Current Report on Form 8-K filed on November 15, 2013 (File No. 001-34295)).
*10.43	Sirius XM Holdings Inc. Deferred Compensation Plan (incorporated by reference to Exhibit 10.2 to Sirius XM Holdings Inc.'s Current Report on Form 8-K filed on June 30, 2015 (File No. 001-34295)).
10.44	Tax Sharing Agreement, dated as of February 1, 2021 between Sirius XM Holdings Inc. and Liberty Media Corporation (filed herewith).
21.1	List of Subsidiaries (filed herewith).
23.1	Consent of KPMG LLP (filed herewith).
31.1	Certificate of Jennifer C. Witz, Chief Executive Officer and Director, pursuant to Section 302 of the Sarbanes-Oxley Act of 2002 (filed herewith).
31.2	Certificate of Sean S. Sullivan, Executive Vice President and Chief Financial Officer, pursuant to Section 302 of the Sarbanes-Oxley Act of 2002 (filed herewith).
32.1	Certificate of Jennifer C. Witz, Chief Executive Officer and Director, pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002 (filed herewith).
32.2	Certificate of Sean S. Sullivan, Executive Vice President and Chief Financial Officer, pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002 (filed herewith).
99.1	Amended and Restated Certificate of Incorporation of Sirius XM Radio Inc., as amended (incorporated by reference to Exhibit 3.3 to Sirius XM Holdings Inc.'s Annual Report on Form 10-K for the year ended December 31, 2013 (File No. 001-34295)).
99.2	Amended and Restated By-Laws of Sirius XM Radio Inc., as amended (incorporated by reference to Exhibit 3.4 to Sirius XM Holdings Inc.'s Annual Report on Form 10-K for the year ended December 31, 2013 (File No. 001-34295)).
101.1	The following financial information from our Annual Report on Form 10-K for the year ended December 31, 2020 formatted in Inline eXtensible Business Reporting Language (Inline XBRL): (i) Consolidated Statements of Comprehensive Income for the years ended December 31, 2020, 2019 and 2018; (ii) Consolidated Balance Sheets as of December 31, 2020 and 2019; (iii) Consolidated Statements of Stockholders' (Deficit) Equity for the years ended December 31, 2020, 2019 and 2018; (iv) Consolidated Statements of Cash Flows for the years ended December 31, 2020, 2019 and 2018; and (v) Combined Notes to Consolidated Financial Statements.
104.1	Cover Page Interactive Data File (Embedded within the Inline XBRL document and included in Exhibit 101.1)

* This document has been identified as a management contract or compensatory plan or arrangement.

** Pursuant to the Commission's Orders Granting Confidential Treatment under Rule 406 of the Securities Act of 1933 or Rule 24(b)-2 under the Securities Exchange Act of 1934, certain confidential portions of this Exhibit were omitted by means of redacting a portion of the text.

The agreements and other documents filed as exhibits to this report are not intended to provide factual information or other disclosure other than with respect to the terms of the agreements or other documents themselves, and you should not rely on them for any other purpose. In particular, any representations and warranties made by us in these agreements or other documents were made solely within the specific context of the relevant agreement or document and may not describe the actual state of affairs for any other purpose as of the date they were made or at any other time.

SIGNATURES

Pursuant to the requirements of Section 13 or 15(d) of the Securities Exchange Act of 1934, the registrant has duly caused this report to be signed on its behalf by the undersigned, thereunto duly authorized on this 2nd day of February 2021.

SIRIUS XM HOLDINGS INC.

By: /s/ Sean S. Sullivan

Sean S. Sullivan
Executive Vice President and Chief Financial Officer
(Principal Financial Officer and Authorized Officer)

Pursuant to the requirements of the Securities Exchange Act of 1934, this report has been signed below by the following persons on behalf of the registrant and in the capacities and on the dates indicated.

Signature	Title	Date
/s/ Gregory B. Maffei **(Gregory B. Maffei)**	Chairman of the Board of Directors and Director	February 2, 2021
/s/ James E. Meyer **(James E. Meyer)**	Vice Chairman of the Board of Directors and Director	February 2, 2021
/s/ Jennifer C. Witz **(Jennifer C. Witz)**	Chief Executive Officer and Director (Principal Executive Officer)	February 2, 2021
/s/ Sean S. Sullivan **(Sean S. Sullivan)**	Executive Vice President and Chief Financial Officer (Principal Financial Officer)	February 2, 2021
/s/ Thomas D. Barry **(Thomas D. Barry)**	Senior Vice President and Controller (Principal Accounting Officer)	February 2, 2021
/s/ Joan L. Amble **(Joan L. Amble)**	Director	February 2, 2021
/s/ Mark D. Carleton **(Mark D. Carleton)**	Director	February 2, 2021
/s/ Eddy W. Hartenstein **(Eddy W. Hartenstein)**	Director	February 2, 2021
/s/ James P. Holden **(James P. Holden)**	Director	February 2, 2021
/s/ Evan D. Malone **(Evan D. Malone)**	Director	February 2, 2021
/s/ James F. Mooney **(James F. Mooney)**	Director	February 2, 2021
/s/ Jonelle Procope **(Jonelle Procope)**	Director	February 2, 2021
/s/ Michael Rapino **(Michael Rapino)**	Director	February 2, 2021
/s/ Kristina M. Salen **(Kristina M. Salen)**	Director	February 2, 2021
/s/ Carl E. Vogel **(Carl E. Vogel)**	Director	February 2, 2021
/s/ David M. Zaslav **(David M. Zaslav)**	Director	February 2, 2021

SIRIUS XM HOLDINGS INC. AND SUBSIDIARIES
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Report of Independent Registered Public Accounting Firm

To the Stockholders and Board of Directors
Sirius XM Holdings Inc.:

Opinion on the Consolidated Financial Statements

We have audited the accompanying consolidated balance sheets of Sirius XM Holdings Inc. and subsidiaries (the Company) as of December 31, 2020 and 2019, the related consolidated statements of comprehensive income, stockholders' equity (deficit), and cash flows for each of the years in the three-year period ended December 31, 2020, and the related notes and financial statement schedule II (collectively, the consolidated financial statements). In our opinion, the consolidated financial statements present fairly, in all material respects, the financial position of the Company as of December 31, 2020 and 2019, and the results of its operations and its cash flows for each of the years in the three-year period ended December 31, 2020, in conformity with U.S. generally accepted accounting principles.

We also have audited, in accordance with the standards of the Public Company Accounting Oversight Board (United States) (PCAOB), the Company's internal control over financial reporting as of December 31, 2020, based on criteria established in *Internal Control – Integrated Framework (2013)* issued by the Committee of Sponsoring Organizations of the Treadway Commission, and our report dated February 2, 2021 expressed an unqualified opinion on the effectiveness of the Company's internal control over financial reporting.

Change in Accounting Principle

As discussed in Note 2 to the consolidated financial statements, the Company has changed its method of accounting for leases as of January 1, 2019 due to the adoption of Accounting Standard Update (ASU) 2016-02 and all related amendments, which established Accounting Standard Codification (ASC) Topic 842, *Leases*.

Basis for Opinion

These consolidated financial statements are the responsibility of the Company's management. Our responsibility is to express an opinion on these consolidated financial statements based on our audits. We are a public accounting firm registered with the PCAOB and are required to be independent with respect to the Company in accordance with the U.S. federal securities laws and the applicable rules and regulations of the Securities and Exchange Commission and the PCAOB.

We conducted our audits in accordance with the standards of the PCAOB. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the consolidated financial statements are free of material misstatement, whether due to error or fraud. Our audits included performing procedures to assess the risks of material misstatement of the consolidated financial statements, whether due to error or fraud, and performing procedures that respond to those risks. Such procedures included examining, on a test basis, evidence regarding the amounts and disclosures in the consolidated financial statements. Our audits also included evaluating the accounting principles used and significant estimates made by management, as well as evaluating the overall presentation of the consolidated financial statements. We believe that our audits provide a reasonable basis for our opinion.

Critical Audit Matters

The critical audit matters communicated below are matters arising from the current period audit of the consolidated financial statements that were communicated or required to be communicated to the audit committee and that: (1) relate to accounts or disclosures that are material to the consolidated financial statements and (2) involved our especially challenging, subjective, or complex judgments. The communication of critical audit matters does not alter in any way our opinion on the consolidated financial statements, taken as a whole, and we are not, by communicating the critical audit matters below, providing separate opinions on the critical audit matters or on the accounts or disclosures to which they relate.

Sufficiency of audit evidence over certain subscriber and advertising revenues

As discussed in Notes 2 and 19 to the consolidated financial statements, and disclosed in the consolidated statements of comprehensive income, the Company generated $8.0 billion of revenues, of which $5.9 billion was Sirius XM subscriber revenue and $1.2 billion was Pandora (Pandora Media, LLC and subsidiaries, the successor to Pandora Media, Inc. and subsidiaries) advertising revenue, for the year ended December 31, 2020. The Company's accounting for these subscriber and advertising revenues involve multiple information technology (IT) systems.

We identified the evaluation of the sufficiency of audit evidence related to these subscriber and advertising revenues as a critical audit matter. Evaluating the sufficiency of audit evidence required our subjective judgment regarding, among other things, the nature and extent of the evidence relating to each revenue stream, due principally to the number of IT applications utilized in the revenue recognition process to capture and aggregate the data.

The following are the primary procedures we performed to address this critical audit matter. We evaluated the design and tested the operating effectiveness of certain internal controls related to the critical audit matter. This included controls related to the Company's subscriber and advertising revenue recognition processes. We involved IT professionals with specialized skills and knowledge, who assisted in testing relevant IT applications and controls used by the Company in its revenue recognition processes and testing the interface of relevant revenue data between different IT systems used in the revenue recognition processes.

We applied auditor judgment to determine the nature and extent of procedures to be performed over subscriber and advertising revenues. For each revenue stream within Sirius XM subscriber revenues where procedures were performed, we developed an estimate of subscriber revenues. These estimates were based on a combination of internal data and publicly available external data and the estimates were compared to the Company's recorded amounts. In addition, we evaluated the relevance and reliability of the internal and external data used to develop those estimates. On a sample basis, we tested Pandora advertising revenues by tracing the recorded amounts to underlying source documents and system reports. We evaluated the sufficiency of audit evidence obtained by assessing the results of procedures performed.

Fair value of the Pandora tradename and goodwill in the Pandora reporting unit

As discussed in Note 9 to the consolidated financial statements, the Company's goodwill balance associated with the Pandora reporting unit was $832 million as of December 31, 2020. Additionally, as discussed in Note 10 to the consolidated financial statements, the Pandora tradename balance was $311 million as of December 31, 2020. The Company performs goodwill and indefinite-lived assets impairment testing as of the fourth quarter of each fiscal year, and whenever events and changes in circumstances indicate that the carrying value of a tradename more likely than not exceeds its fair value or the carrying value of a reporting unit more likely than not exceeds its fair value. The Company identified events that indicated that it was more likely than not that the carrying value of the Pandora reporting unit and the Pandora tradename exceeded their fair values. The Company estimated the fair value of the Pandora reporting unit using a combination of a discounted cash flow model and a market approach, and the Pandora tradename using a discounted cash flow model. As a result, the Company recognized an impairment charge of $956 million for the Pandora reporting unit goodwill and an impairment charge of $20 million for the Pandora tradename.

We identified the evaluation of the Company's fair value assessment of the Pandora tradename and goodwill in the Pandora reporting unit as a critical audit matter. There was a high degree of subjective auditor judgment in applying and evaluating the results of our audit procedures over the discounted cash flow model used to calculate the fair value of the goodwill in the Pandora reporting unit and the Pandora tradename. Specifically, the revenue growth rates, long-term growth rate, and the discount rates (the key assumptions), which were used by the Company to estimate the fair value of the reporting unit involved a higher degree of subjectivity. In addition, these key assumptions used in the fair value assessment were challenging to test due to the sensitivity of the fair value to changes in these assumptions.

The following are the primary procedures we performed to address this critical audit matter. We evaluated the design and tested the operating effectiveness of certain internal controls related to the Company's goodwill and tradename impairment process. This included controls over the selection of the revenue growth rates, long-term growth rate, and the discount rates used to estimate the fair value of the Pandora reporting unit and the Pandora tradename. We performed sensitivity analyses to assess the impact of possible changes to the revenue growth rates, long-term growth rate, and discount rate assumptions on the fair value of the Pandora reporting unit and the Pandora tradename. We compared the Company's forecasted revenue growth rate assumptions to the Pandora reporting unit's historical revenue growth rates, to projected revenue growth rates for comparable companies, and to other publicly available data, including third party market studies. We compared the Company's historical revenue forecasts to actual results to assess the Company's ability to accurately forecast. We evaluated the relevance and reliability of the internal and external data used to develop those assumptions. We involved valuation professionals with specialized skills and knowledge who assisted in:

- evaluating the Company's discount rates by comparing them to discount rate ranges that were developed using publicly available market data for comparable entities;
- developing an estimated range of fair value of the Pandora reporting unit using the reporting unit's cash flow projections, estimated discount rate range, and comparing the result to the Company's fair value estimate; and
- developing an estimated range of fair value of the Pandora trademark using the Company's cash flow projections and an estimated discount rate range and comparing the result to the Company's fair value estimate.

/s/ KPMG LLP

We have served as the Company's auditor since 2008.

New York, New York
February 2, 2021

Report of Independent Registered Public Accounting Firm

To the Stockholders and Board of Directors
Sirius XM Holdings Inc.:

Opinion on Internal Control Over Financial Reporting

We have audited Sirius XM Holdings Inc. and subsidiaries' (the Company) internal control over financial reporting as of December 31, 2020, based on criteria established in *Internal Control - Integrated Framework (2013)* issued by the Committee of Sponsoring Organizations of the Treadway Commission. In our opinion, the Company maintained, in all material respects, effective internal control over financial reporting as of December 31, 2020, based on criteria established in *Internal Control - Integrated Framework (2013)* issued by the Committee of Sponsoring Organizations of the Treadway Commission.

We also have audited, in accordance with the standards of the Public Company Accounting Oversight Board (United States) (PCAOB), the consolidated balance sheets of the Company as of December 31, 2020 and 2019, the related consolidated statements of comprehensive income, stockholders' equity (deficit), and cash flows for each of the years in the three-year period ended December 31, 2020, and the related notes and financial statement schedule II (collectively, the consolidated financial statements), and our report dated February 2, 2021 expressed an unqualified opinion on those consolidated financial statements.

Basis for Opinion

The Company's management is responsible for maintaining effective internal control over financial reporting and for its assessment of the effectiveness of internal control over financial reporting, included in the accompanying *Management's Report on Internal Control over Financial Reporting*. Our responsibility is to express an opinion on the Company's internal control over financial reporting based on our audit. We are a public accounting firm registered with the PCAOB and are required to be independent with respect to the Company in accordance with the U.S. federal securities laws and the applicable rules and regulations of the Securities and Exchange Commission and the PCAOB.

We conducted our audit in accordance with the standards of the PCAOB. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether effective internal control over financial reporting was maintained in all material respects. Our audit of internal control over financial reporting included obtaining an understanding of internal control over financial reporting, assessing the risk that a material weakness exists, and testing and evaluating the design and operating effectiveness of internal control based on the assessed risk. Our audit also included performing such other procedures as we considered necessary in the circumstances. We believe that our audit provides a reasonable basis for our opinion.

Definition and Limitations of Internal Control Over Financial Reporting

A company's internal control over financial reporting is a process designed to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles. A company's internal control over financial reporting includes those policies and procedures that (1) pertain to the maintenance of records that, in reasonable detail, accurately and fairly reflect the transactions and dispositions of the assets of the company; (2) provide reasonable assurance that transactions are recorded as necessary to permit preparation of financial statements in accordance with generally accepted accounting principles, and that receipts and expenditures of the company are being made only in accordance with authorizations of management and directors of the company; and (3) provide reasonable assurance regarding prevention or timely detection of unauthorized acquisition, use, or disposition of the company's assets that could have a material effect on the financial statements.

Because of its inherent limitations, internal control over financial reporting may not prevent or detect misstatements. Also, projections of any evaluation of effectiveness to future periods are subject to the risk that controls may become inadequate because of changes in conditions, or that the degree of compliance with the policies or procedures may deteriorate.

/s/ KPMG LLP

New York, New York
February 2, 2021

SIRIUS XM HOLDINGS INC. AND SUBSIDIARIES
CONSOLIDATED STATEMENTS OF COMPREHENSIVE INCOME

(in millions, except per share data)	For the Years Ended December 31, 2020	2019	2018
Revenue:			
Subscriber revenue	$ 6,372	$ 6,120	$ 5,264
Advertising revenue	1,340	1,336	188
Equipment revenue	173	173	155
Other revenue	155	165	164
Total revenue	8,040	7,794	5,771
Operating expenses:			
Cost of services:			
Revenue share and royalties	2,421	2,291	1,394
Programming and content	481	462	406
Customer service and billing	481	475	382
Transmission	177	170	96
Cost of equipment	19	29	31
Subscriber acquisition costs	362	427	470
Sales and marketing	957	937	484
Engineering, design and development	263	280	123
General and administrative	511	524	354
Depreciation and amortization	506	468	301
Acquisition and restructuring costs	28	84	3
Impairment charges	976	—	—
Total operating expenses	7,182	6,147	4,044
Income from operations	858	1,647	1,727
Other (expense) income:			
Interest expense	(394)	(390)	(350)
Loss on extinguishment of debt	(40)	(57)	—
Other income (expense)	6	(3)	44
Total other (expense) income	(428)	(450)	(306)
Income before income taxes	430	1,197	1,421
Income tax expense	(299)	(283)	(245)
Net income	$ 131	$ 914	$ 1,176
Foreign currency translation adjustment, net of tax	7	14	(29)
Total comprehensive income	$ 138	$ 928	$ 1,147
Net income per common share:			
Basic	$ 0.03	$ 0.20	$ 0.26
Diluted	$ 0.03	$ 0.20	$ 0.26
Weighted average common shares outstanding:			
Basic	4,330	4,501	4,462
Diluted	4,429	4,616	4,561

See accompanying notes to the consolidated financial statements.

SIRIUS XM HOLDINGS INC. AND SUBSIDIARIES
CONSOLIDATED BALANCE SHEETS

(in millions, except per share data)	As of December 31, 2020	As of December 31, 2019
ASSETS		
Current assets:		
Cash and cash equivalents	$ 71	$ 106
Receivables, net	672	670
Inventory, net	10	11
Related party current assets	20	22
Prepaid expenses and other current assets	194	194
Total current assets	967	1,003
Property and equipment, net	1,629	1,626
Intangible assets, net	3,340	3,467
Goodwill	3,122	3,843
Related party long-term assets	531	452
Deferred tax assets	111	153
Operating lease right-of-use assets	427	466
Other long-term assets	206	139
Total assets	$ 10,333	$ 11,149
LIABILITIES AND STOCKHOLDERS' EQUITY (DEFICIT)		
Current liabilities:		
Accounts payable and accrued expenses	$ 1,223	$ 1,151
Accrued interest	174	160
Current portion of deferred revenue	1,721	1,930
Current maturities of debt	1	2
Operating lease current liabilities	48	46
Related party current liabilities	—	4
Total current liabilities	3,167	3,293
Long-term deferred revenue	118	130
Long-term debt	8,499	7,842
Deferred tax liabilities	266	70
Operating lease liabilities	419	456
Other long-term liabilities	149	94
Total liabilities	12,618	11,885
Commitments and contingencies (Note 17)		
Stockholders’ equity (deficit):		
Common stock, par value $0.001 per share; 9,000 shares authorized; 4,176 and 4,412 shares issued; 4,173 and 4,412 shares outstanding at December 31, 2020 and December 31, 2019, respectively	4	4
Accumulated other comprehensive income, net of tax	15	8
Additional paid-in capital	—	395
Treasury stock, at cost; 3 and 0 shares of common stock at December 31, 2020 and December 31, 2019, respectively	(19)	—
Accumulated deficit	(2,285)	(1,143)
Total stockholders’ equity (deficit)	(2,285)	(736)
Total liabilities and stockholders’ equity (deficit)	$ 10,333	$ 11,149

See accompanying notes to the consolidated financial statements.

SIRIUS XM HOLDINGS INC. AND SUBSIDIARIES
CONSOLIDATED STATEMENT OF STOCKHOLDERS' EQUITY (DEFICIT)

(in millions)	Common Stock		Accumulated Other Comprehensive Income (Loss)	Additional Paid-in Capital	Treasury Stock		Accumulated Deficit	Total Stockholders' Equity (Deficit)
	Shares	Amount			Shares	Amount		
Balance at January 1, 2018	4,531	$ 4	$ 19	$ 1,715	3	$ (17)	$ (3,243)	$ (1,522)
Cumulative effect of change in accounting principles	—	—	4	30	—	—	10	44
Comprehensive income, net of tax	—	—	(29)	—	—	—	1,176	1,147
Share-based payment expense	—	—	—	133	—	—	—	133
Exercise of stock options and vesting of restricted stock units	27	—	—	—	—	—	—	—
Withholding taxes on net share settlement of stock-based compensation	—	—	—	(121)	—	—	—	(121)
Cash dividends paid on common stock, $0.04510 per share	—	—	—	(201)	—	—	—	(201)
Common stock repurchased	—	—	—	—	209	(1,297)	—	(1,297)
Common stock retired	(212)	—	—	(1,314)	(212)	1,314	—	—
Balance at December 31, 2018	4,346	$ 4	$ (6)	$ 242	—	$ —	$ (2,057)	$ (1,817)
Comprehensive income, net of tax	—	—	14	—	—	—	914	928
Share-based payment expense	—	—	—	263	—	—	—	263
Exercise of stock options and vesting of restricted stock units	38	—	—	8	—	—	—	8
Withholding taxes on net share settlement of stock-based compensation	—	—	—	(150)	—	—	—	(150)
Cash dividends paid on common stock, $0.04961 per share	—	—	—	(226)	—	—	—	(226)
Issuance of common stock as part of Pandora Acquisition	392	1	—	2,354	—	—	—	2,355
Equity component of convertible note	—	—	—	62	—	—	—	62
Common stock repurchased	—	—	—	—	364	(2,159)	—	(2,159)
Common stock retired	(364)	(1)	—	(2,158)	(364)	2,159	—	—
Balance at December 31, 2019	4,412	$ 4	$ 8	$ 395	—	$ —	$ (1,143)	$ (736)
Comprehensive income, net of tax	—	—	7	—	—	—	131	138
Share-based payment expense	—	—	—	239	—	—	—	239
Exercise of stock options and vesting of restricted stock units	28	—	—	—	—	—	—	—
Withholding taxes on net share settlement of stock-based compensation	—	—	—	(115)	—	—	—	(115)
Cash dividends paid on common stock, $0.05457 per share	—	—	—	(170)	—	—	(67)	(237)
Common stock repurchased	—	—	—	—	267	(1,574)	—	(1,574)
Common stock retired	(264)	—	—	(349)	(264)	1,555	(1,206)	—
Balance at December 31, 2020	4,176	$ 4	$ 15	$ —	3	$ (19)	$ (2,285)	$ (2,285)

See accompanying notes to the consolidated financial statements.

SIRIUS XM HOLDINGS INC. AND SUBSIDIARIES
CONSOLIDATED STATEMENTS OF CASH FLOWS

(in millions)	For the Years Ended December 31, 2020	2019	2018
Cash flows from operating activities:			
Net income	$ 131	$ 914	$ 1,176
Adjustments to reconcile net income to net cash provided by operating activities:			
Depreciation and amortization	506	468	301
Impairment charges	976	—	—
Non-cash interest expense, net of amortization of premium	20	17	9
Provision for doubtful accounts	60	53	51
Amortization of deferred income related to equity method investment	(3)	(3)	(3)
Loss on extinguishment of debt	40	57	—
Loss on unconsolidated entity investments, net	16	21	10
Gain on fair value instrument	—	—	(43)
Dividend received from unconsolidated entity investment	2	2	2
Loss on restructuring	24	—	—
(Gain) loss on other investments	(3)	(3)	1
Share-based payment expense	223	250	133
Deferred income taxes	238	259	257
Amortization of right-of-use assets	56	56	—
Changes in operating assets and liabilities:			
Receivables	(36)	(137)	(42)
Inventory	(2)	11	(2)
Related party, net	—	(10)	1
Prepaid expenses and other current assets	14	10	(20)
Other long-term assets	(61)	7	9
Accounts payable and accrued expenses	42	109	(20)
Accrued interest	13	32	(9)
Deferred revenue	(223)	(58)	70
Operating lease liabilities	(53)	(47)	—
Other long-term liabilities	38	9	(1)
Net cash provided by operating activities	2,018	2,017	1,880
Cash flows from investing activities:			
Additions to property and equipment	(350)	(363)	(355)
Purchases of other investments	(8)	(7)	(8)
Acquisition of business, net of cash acquired	(300)	313	(2)
Sale of short-term investments	—	73	—
Investments in related parties and other equity investees	(94)	(19)	(17)
Repayment from related party	11	—	3
Net cash used in investing activities	(741)	(3)	(379)
Cash flows from financing activities:			
Proceeds from exercise of stock options	—	8	—
Taxes paid from net share settlements for stock-based compensation	(114)	(150)	(120)
Revolving credit facility, net of deferred financing costs	649	(439)	136
Proceeds from long-term borrowings, net of costs	1,481	2,715	—
Proceeds from sale of capped call security	—	3	—
Principal payments of long-term borrowings	(1,507)	(1,666)	(16)
Payment of premiums on redemption of debt	(31)	(45)	—
Common stock repurchased and retired	(1,555)	(2,159)	(1,314)
Dividends paid	(237)	(226)	(201)
Net cash used in financing activities	(1,314)	(1,959)	(1,515)
Net (decrease) increase in cash, cash equivalents and restricted cash	(37)	55	(14)
Cash, cash equivalents and restricted cash at beginning of period [1]	120	65	79
Cash, cash equivalents and restricted cash at end of period [1]	$ 83	$ 120	$ 65

See accompanying notes to the consolidated financial statements.

SIRIUS XM HOLDINGS INC. AND SUBSIDIARIES
CONSOLIDATED STATEMENTS OF CASH FLOWS - Continued

(in millions)	For the Years Ended December 31, 2020	2019	2018
Supplemental Disclosure of Cash and Non-Cash Flow Information			
Cash paid during the period for:			
Interest, net of amounts capitalized	$ 358	$ 337	$ 345
Income taxes paid	$ 38	$ 10	$ 6
Non-cash investing and financing activities:			
Treasury stock not yet settled	$ (19)	$ —	$ 17
Fair value of shares issued related to acquisition of a business	$ —	$ 2,355	$ —
Accumulated other comprehensive income (loss), net of tax	$ 7	$ 14	$ (29)

(1) The following table reconciles cash, cash equivalents and restricted cash per the statement of cash flows to the balance sheet. The restricted cash balances are primarily due to letters of credit which have been issued to the landlords of leased office space. The terms of the letters of credit primarily extend beyond one year.

(in millions)	December 31, 2020	December 31, 2019	December 31, 2018	December 31, 2017
Cash and cash equivalents	$ 71	$ 106	$ 54	$ 69
Restricted cash included in Other long-term assets	12	14	11	10
Total cash, cash equivalents and restricted cash at end of period	$ 83	$ 120	$ 65	$ 79

See accompanying notes to the consolidated financial statements.

SIRIUS XM HOLDINGS INC. AND SUBSIDIARIES
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS
(Dollars and shares in millions, except per share amounts)

(1) Business & Basis of Presentation

This Annual Report on Form 10-K presents information for Sirius XM Holdings Inc. and its subsidiaries (collectively "Holdings"). The terms "Holdings," "we," "us," "our," and "our company" as used herein, and unless otherwise stated or indicated by context, refer to Sirius XM Holdings Inc. and its subsidiaries. "Sirius XM" refers to our wholly owned subsidiary Sirius XM Radio Inc. and its subsidiaries. "Pandora" refers to Sirius XM's wholly owned subsidiary Pandora Media, LLC (the successor to Pandora Media, Inc.) and its subsidiaries. Holdings has no operations independent of Sirius XM and Pandora.

Business

We operate two complementary audio entertainment businesses - our Sirius XM business and our Pandora business.

Sirius XM

Our Sirius XM business features music, sports, entertainment, comedy, talk, news, traffic and weather channels and other content, as well as podcasts and infotainment services, in the United States on a subscription fee basis. Sirius XM's premier content bundles include live, curated and certain exclusive and on demand programming. The Sirius XM service is distributed through our two proprietary satellite radio systems and streamed via applications for mobile devices, home devices and other consumer electronic equipment. Satellite radios are primarily distributed through automakers, retailers and our website. Our Sirius XM service is also available through our user interface, which we call "360L," that combines our satellite and streaming services into a single, cohesive in-vehicle entertainment experience.

The primary source of revenue from our Sirius XM business is subscription fees, with most of our customers subscribing to monthly, quarterly, semi-annual or annual plans. We also derive revenue from advertising on select non-music channels, direct sales of our satellite radios and accessories, and other ancillary services. As of December 31, 2020, our Sirius XM business had approximately 34.7 million subscribers.

In addition to our audio entertainment businesses, we provide connected vehicle services to several automakers. These services are designed to enhance the safety, security and driving experience of consumers. We also offer a suite of data services that includes graphical weather, fuel prices, sports schedules and scores and movie listings, a traffic information service that includes information as to road closings, traffic flow and incident data to consumers with compatible in-vehicle navigation systems, and real-time weather services in vehicles, boats and planes.

In May 2020, we terminated the Automatic Labs Inc. ("Automatic") service, which was part of our connected services business. Automatic operated a service for consumers and auto dealers and offered an install-it-yourself adapter and mobile application, which transformed vehicles into connected vehicles. During the year ended December 31, 2020, we recorded $24 of restructuring expenses in our consolidated statements of comprehensive income related to this termination of the service. We did not record any restructuring expenses during the years ended December 31, 2019 and 2018. Refer to Note 5 for more information.

Sirius XM also holds a 70% equity interest and 33% voting interest in Sirius XM Canada Holdings Inc. ("Sirius XM Canada"). Sirius XM Canada's subscribers are not included in our subscriber count or subscriber-based operating metrics.

Pandora

Our Pandora business operates a music, comedy and podcast streaming discovery platform, offering a personalized experience for each listener wherever and whenever they want to listen, whether through mobile devices, car speakers or connected devices. Pandora enables listeners to create personalized stations and playlists, discover new content, hear artist- and expert-curated playlists, podcasts and select Sirius XM content as well as search and play songs and albums on-demand. Pandora is available as (1) an ad-supported radio service, (2) a radio subscription service (Pandora Plus) and (3) an on-demand subscription service (Pandora Premium). As of December 31, 2020, Pandora had approximately 6.3 million subscribers.

The majority of revenue from our Pandora business is generated from advertising on our Pandora ad-supported radio service. We also derive subscription revenue from our Pandora Plus and Pandora Premium subscribers.

SIRIUS XM HOLDINGS INC. AND SUBSIDIARIES
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS - Continued
(Dollars and shares in millions, except per share amounts)

Our Pandora business also sells advertising on audio platforms and in podcasts unaffiliated with us. Pandora has an arrangement with SoundCloud Holdings, LLC ("SoundCloud") to be its exclusive US ad sales representative. Through this arrangement Pandora is able to offer advertisers the ability to execute campaigns in the US across the Pandora and SoundCloud listening platforms. We also have arrangements to serve as the ad sales representative for certain podcasts. In addition, through AdsWizz Inc., Pandora provides a comprehensive digital audio and programmatic advertising technology platform, which connects audio publishers and advertisers with a variety of ad insertion, campaign trafficking, yield optimization, programmatic buying, marketplace and podcast monetization solutions.

On October 16, 2020, Sirius XM acquired certain assets and liabilities of Stitcher from The E.W. Scripps Company and certain of its subsidiaries for a total consideration of $296, which included $272 in cash and $30 related to contingent consideration, partially offset by working capital adjustments of $6. The acquisition of Stitcher, in conjunction with Simplecast, created a full-service platform for podcast creators, publishers and advertisers. Refer to Note 3 for more information on this acquisition.

On June 16, 2020, Sirius XM acquired Simplecast for $28 in cash. Simplecast is a podcast management and analytics platform. Refer to Note 3 for more information on this acquisition.

On February 10, 2020, Sirius XM invested $75 in SoundCloud. SoundCloud is the world’s largest open audio platform, with a connected community of creators, listeners, and curators. SoundCloud’s platform enables its users to upload, promote, share and create audio entertainment. The minority investment complements the existing ad sales relationship between SoundCloud and Pandora. Refer to Note 13 for more information on this investment.

Impact of the coronavirus (“COVID-19”) pandemic

The precise extent to which the COVID-19 pandemic will impact our operational and financial performance will depend on various factors. To date, the pandemic has not increased our costs of or access to capital under our revolving credit facility and in the debt markets, and we do not believe it is reasonably likely to in the future. In addition, we do not believe that the pandemic will affect our ongoing ability to meet the covenants in our debt instruments, including under our revolving credit facility. Due to the nature of our subscription business, the effect of the COVID-19 pandemic will not be fully reflected in certain of our results of operations until future periods.

Liberty Media

As of December 31, 2020, Liberty Media Corporation (“Liberty Media”) beneficially owned, directly and indirectly, approximately 76% of the outstanding shares of our common stock. As a result, we are a “controlled company” for the purposes of the NASDAQ corporate governance requirements.

Basis of Presentation

The accompanying consolidated financial statements of Holdings have been prepared in accordance with U.S. generally accepted accounting principles (“GAAP”). All significant intercompany transactions have been eliminated in consolidation. Certain numbers in our prior period consolidated financial statements and footnotes have been reclassified or consolidated to conform to our current period presentation. Music Royalty Fee revenue was reported as Other revenue in our December 31, 2018 Annual Report on Form 10-K. This revenue was reclassified to Subscriber revenue to conform with the current period presentation.

	For the Year Ended December 31, 2018		
	As Reported	Reclassification	Current Report
Subscriber revenue	$ 4,594	$ 670	$ 5,264
Advertising revenue	188	—	188
Equipment revenue	155	—	155
Other revenue	834	(670)	164
Total revenue	$ 5,771	$ —	$ 5,771

Public companies are required to disclose certain information about their reportable operating segments. Operating segments are defined as significant components of an enterprise for which separate financial information is available and is evaluated on a regular basis by the chief operating decision maker in deciding how to allocate resources to an individual segment and in assessing performance of the segment. We have determined that we have two reportable segments as our chief operating decision maker, our Chief Executive Officer, assesses performance and allocates resources based on the financial results of these segments. Refer to Note 19 for information related to our segments.

We have evaluated events subsequent to the balance sheet date and prior to the filing of this Annual Report on Form 10-K for the year ended December 31, 2020 and have determined that no events have occurred that would require adjustment to our consolidated financial statements. For a discussion of subsequent events that do not require adjustment to our consolidated financial statements refer to Note 20.

Use of Estimates

The preparation of financial statements in conformity with GAAP requires management to make estimates and assumptions that affect the amounts reported in the financial statements and footnotes. Estimates, by their nature, are based on judgment and available information. Actual results could differ materially from those estimates. Significant estimates inherent in the preparation of the accompanying consolidated financial statements include asset impairment, depreciable lives of our satellites, share-based payment expense and income taxes.

We are not presently aware of any events or circumstances arising from the COVID-19 pandemic that would require us to update our estimates, judgments or revise the carrying value of our assets or liabilities. Our estimates may change, however, as new events occur and additional information is obtained. Any such changes will be recognized in the consolidated financial statements. Actual results could differ from estimates, and any such differences may be material to our financial statements.

(2) Summary of Significant Accounting Policies

In addition to the significant accounting policies discussed in this Note 2, the following table includes our significant accounting policies that are described in other notes to our consolidated financial statements, including the number and page of the note:

Significant Accounting Policy	Note #	Page #
Acquisition	3	F-16
Fair Value Measurements	4	F-19
Goodwill	9	F-21
Intangible Assets	10	F-22
Property and Equipment	11	F-24
Equity Method Investments	13	F-28
Share-Based Compensation	16	F-31
Legal Reserves	17	F-35
Income Taxes	18	F-39

Cash and Cash Equivalents

Our cash and cash equivalents consist of cash on hand, money market funds, certificates of deposit, in-transit credit card receipts and highly liquid investments purchased with an original maturity of three months or less.

Revenue Recognition

Revenue is measured according to Accounting Standards Codification ("ASC") 606, *Revenue - Revenue from Contracts with Customers*, and is recognized based on consideration specified in a contract with a customer, and excludes any sales incentives and amounts collected on behalf of third parties. We recognize revenue when we satisfy a performance obligation by transferring control over a service or product to a customer. We report revenues net of any tax assessed by a governmental authority that is both imposed on, and concurrent with, a specific revenue-producing transaction between a seller and a customer in our consolidated statements of comprehensive income. Collected taxes are recorded within Other current liabilities until remitted to the relevant taxing authority. For equipment sales, we are responsible for arranging for shipping and handling. Shipping and handling costs billed to customers are recorded as revenue and are reported as a component of Cost of equipment.

The following is a description of the principal activities from which we generate our revenue, including from self-pay and paid promotional subscribers, advertising, and sales of equipment.

Subscriber revenue consists primarily of subscription fees and other ancillary subscription based revenues. Revenue is recognized on a straight line basis when the performance obligations to provide each service for the period are satisfied, which is over time as our subscription services are continuously transmitted and can be consumed by customers at any time. Consumers purchasing or leasing a vehicle with a factory-installed satellite radio may receive between a three and twelve month subscription to our service. In certain cases, the subscription fees for these consumers are prepaid by the applicable automaker. Prepaid subscription fees received from automakers or directly from consumers are recorded as deferred revenue and amortized to revenue ratably over the service period which commences upon sale. Activation fees are recognized over one month as the activation fees are non-refundable and do not provide for a material right to the customer. There is no revenue recognized for unpaid trial subscriptions. In some cases we pay a loyalty fee to the automakers when we receive a certain amount of payments from self-pay customers acquired from that automaker. These fees are considered incremental costs to obtain a contract and are, therefore, recognized as an asset and amortized to Subscriber acquisition costs over an average subscriber life. Revenue share and loyalty fees paid to an automaker offering a paid trial are accounted for as a reduction of revenue as the payment does not provide a distinct good or service.

Music royalty fee primarily consists of U.S. music royalty fees ("MRF") collected from subscribers. The related costs we incur for the right to broadcast music and other programming are recorded as Revenue share and royalties expense. Fees received from subscribers for the MRF are recorded as deferred revenue and amortized to Subscriber revenue ratably over the service period.

We recognize revenue from the sale of advertising as performance obligations are satisfied, which generally occurs as ads are delivered. For our satellite radio service, ads are delivered when they are aired. For our streaming services, ads are delivered primarily based on impressions. Agency fees are calculated based on a stated percentage applied to gross billing revenue for our advertising inventory and are reported as a reduction of advertising revenue. Additionally, we pay certain third parties a percentage of advertising revenue. Advertising revenue is recorded gross of such revenue share payments as we control the advertising service, including the ability to establish pricing, and we are primarily responsible for providing the service. Advertising revenue share payments are recorded to Revenue share and royalties during the period in which the advertising is transmitted.

Equipment revenue and royalties from the sale of satellite radios, components and accessories are recognized upon shipment, net of discounts and rebates. Shipping and handling costs billed to customers are recorded as revenue. Shipping and handling costs associated with shipping goods to customers are reported as a component of Cost of equipment. Other revenue primarily includes revenue recognized from royalties received from Sirius XM Canada.

Customers pay for the services in advance of the performance obligation and therefore these prepayments are recorded as deferred revenue. The deferred revenue is recognized as revenue in our consolidated statement of comprehensive income as the services are provided. Changes in the deferred revenue balance during the year ended December 31, 2020 were not materially impacted by other factors.

As the majority of our contracts are one year or less, we have utilized the optional exemption under ASC 606-10-50-14 and do not disclose information about the remaining performance obligations for contracts which have original expected durations of one year or less. As of December 31, 2020, less than ten percent of our total deferred revenue balance related to contracts that extend beyond one year. These contracts primarily include prepaid data trials which are typically provided for three to five years as well as for self-pay customers who prepay for their audio subscriptions for up to three years in advance. These amounts are recognized on a straight-line basis as our services are provided.

Revenue Share

We share a portion of our subscription revenues earned from self-pay subscribers with certain automakers. The terms of the revenue share agreements vary with each automaker, but are typically based upon the earned audio revenue as reported or gross billed audio revenue. Revenue share on self-pay revenue is recognized as an expense and recorded in Revenue share and royalties in our consolidated statements of comprehensive income. We also pay revenue share to certain talent on non-music stations on our satellite radio service and to podcast talent based on advertising revenue for the related channel or podcast. Revenue share on non-music channels and podcasts is recognized in Revenue share and royalties in our consolidated statements of comprehensive income when it is earned. In some cases we prepay minimum guarantees for revenue share to podcast talent which is recorded in Prepaid and other current assets in our consolidated statements of financial position. The minimum guarantee is recognized in Revenue share and royalties primarily on a straight line basis over the contractual term. The prepaid balance is regularly reviewed for recoverability and any amount not deemed to be recoverable is recognized as an expense in the period.

Royalties

In connection with our businesses, we must enter into royalty arrangements with two sets of rights holders: holders of musical compositions copyrights (that is, the music and lyrics) and holders of sound recordings copyrights (that is, the actual recording of a work). Our Sirius XM and Pandora businesses use both statutory and direct music licenses as part of their businesses. We license varying rights - such as performance and mechanical rights - for use in our Sirius XM and Pandora businesses based on the various radio and interactive services they offer. The music rights licensing arrangements for our Sirius XM and Pandora businesses are complex.

Musical Composition Copyrights

We pay performance royalties for our Sirius XM and Pandora businesses to holders and rights administrators of musical compositions copyrights, including performing rights organizations and other copyright owners. These performance royalties are based on agreements with performing rights organizations which represent the holders of these performance rights. Our Sirius XM and Pandora businesses have arrangements with these performance rights organizations. Arrangements with Sirius XM generally include fixed payments during the term of the agreement and arrangements with Pandora for its ad-supported radio service have variable payments based on usage and ownership of a royalty pool. Pandora must also license reproduction rights, which are also referred to as mechanical rights, to offer the interactive features of the Pandora services. For our Pandora subscription services, copyright holders receive payments for these rights at the rates determined in accordance with the statutory license set forth in Section 115 of the United States Copyright Act. These mechanical royalties are calculated as the greater of a percentage of our revenue or a percentage of our payments to record labels.

For our interactive music services offered by our Pandora business, we pay mechanical royalties to copyright holders at the rates determined by the Copyright Royalty Board (the “CRB”) in accordance with the statutory license set forth in Section 115 of the United States Copyright Act.

Sound Recording Copyrights

For our non-interactive satellite radio or streaming services we may license sound recordings under direct licenses with the owners of sound recordings or based on the royalty rate established by the CRB. For our Sirius XM business, the royalty rate for sound recordings has been set by the CRB. The revenue subject to royalty includes subscription revenue from our U.S. satellite digital audio radio subscribers, and advertising revenue from channels other than those channels that make only incidental performances of sound recordings. The rates and terms permit us to reduce the payment due each month for those sound recording directly licensed from copyright owners and exclude from our revenue certain other items, such as royalties

paid to us for intellectual property, sales and use taxes, bad debt expense and generally revenue attributable to areas of our business that do not involve the use of copyrighted sound recordings.

For our Pandora business, we have entered into direct license agreements with major and independent music labels and distributors for a significant majority of the sound recordings that stream on the Pandora ad-supported service, Pandora Plus and Pandora Premium. For sound recordings that we stream and for which we have not entered into a direct license agreement with the sound recording rights holders, the sound recordings are streamed pursuant to the statutory royalty rates set by the CRB. Pandora pays royalties to owners of sound recordings on either a per-performance fee based on the number of sound recordings transmitted or a percentage of revenue associated with the applicable service. Certain of these agreements also require Pandora to pay a per subscriber minimum amount.

Programming Costs

Programming costs which are for a specified number of events are amortized on an event-by-event basis; programming costs which are for a specified season or include programming through a dedicated channel are amortized over the season or period on a straight-line basis. We allocate a portion of certain programming costs which are related to sponsorship and marketing activities to Sales and marketing expense on a straight-line basis over the term of the agreement.

Advertising Costs

Media is expensed when aired and advertising production costs are expensed as incurred. Advertising production costs include expenses related to marketing and retention activities, including expenses related to direct mail, outbound telemarketing and email communications. We also incur advertising production costs related to cooperative marketing and promotional events and sponsorships. During the years ended December 31, 2020, 2019 and 2018, we recorded advertising costs of $443, $392 and $267, respectively. These costs are reflected in Sales and marketing expense in our consolidated statements of comprehensive income.

Subscriber Acquisition Costs

Subscriber acquisition costs consist of costs incurred to acquire new subscribers which include hardware subsidies paid to radio manufacturers, distributors and automakers, including subsidies paid to automakers who include a satellite radio and a prepaid subscription to our service in the sale or lease price of a new vehicle; subsidies paid for chipsets and certain other components used in manufacturing radios; device royalties for certain radios and chipsets; commissions paid to retailers and automakers as incentives to purchase, install and activate radios; product warranty obligations; freight; and provisions for inventory allowance attributable to inventory consumed in our automotive and retail distribution channels. Subscriber acquisition costs do not include advertising costs, loyalty payments to distributors and dealers of radios and revenue share payments to automakers and retailers of radios.

Subsidies paid to radio manufacturers and automakers are expensed upon installation, shipment, receipt of product or activation and are included in Subscriber acquisition costs because we are responsible for providing the service to the customers. Commissions paid to retailers and automakers are expensed upon either the sale or activation of radios. Chipsets that are shipped to radio manufacturers and held on consignment are recorded as inventory and expensed as Subscriber acquisition costs when placed into production by radio manufacturers. Costs for chipsets are expensed as Subscriber acquisition costs when the automaker confirms receipt.

Research & Development Costs

Research and development costs are expensed as incurred and primarily include the cost of new product development, chipset design, software development and engineering. During the years ended December 31, 2020, 2019 and 2018, we recorded research and development costs of $220, $231 and $106, respectively. These costs are reported as a component of Engineering, design and development expense in our consolidated statements of comprehensive income.

Accumulated Other Comprehensive Income (Loss), net of tax

Accumulated other comprehensive income of $15 was primarily comprised of the cumulative foreign currency translation adjustments related to Sirius XM Canada (refer to Note 13 for additional information). During the year ended December 31, 2020, we recorded a foreign currency translation adjustment gain of $7, which is recorded net of tax expense of $2. During the years ended December 31, 2019 and 2018, we recorded foreign currency translation adjustment gain (loss) of $14 and $(29), respectively, net of tax.

Recently Adopted Accounting Policies

ASU 2016-02, Leases (Topic 842). In February 2016, FASB issued ASU 2016-02 which requires companies to recognize lease assets and liabilities arising from operating leases in the statement of financial position. This ASU does not significantly change the previous lease guidance for how a lessee should recognize, measure, and present expenses and cash flows arising from a lease. Additionally, the criteria for classifying a finance lease versus an operating lease are substantially the same as the previous guidance. This ASU was effective for fiscal years beginning after December 15, 2018, including interim periods within those fiscal years, and early adoption was permitted. In July 2018, the FASB issued ASU 2018-11, *Leases (Topic 842) Targeted Improvements*, amending certain aspects of the new leasing standard. The amendment allows an additional optional transition method whereby an entity records a cumulative effect adjustment to opening retained earnings in the year of adoption without restating prior periods. We adopted this ASU on January 1, 2019 and elected the additional transition method per ASU 2018-11. Our leases consist of repeater leases, facility leases and equipment leases. We elected the package of practical expedients permitted under the transition guidance within the new standard.

Adoption of the new standard resulted in the recording of additional lease assets and lease liabilities of approximately $347 and $369, respectively, as of January 1, 2019. The standard did not impact our consolidated statements of comprehensive income, consolidated statements of cash flows or debt. Additionally, we did not record a cumulative effect adjustment to opening retained earnings.

The effect of the changes made to our consolidated balance sheet as of January 1, 2019 for the adoption of ASU 2016-02 is included in the table below.

Balance Sheet	Balance at December 31, 2018	Adjustments Due to ASU 2016-02	Balance at January 1, 2019
Assets:			
Operating lease right-of-use assets	$ —	$ 347	$ 347
Liabilities:			
Accounts payable and accrued expenses	$ 736	$ (1)	$ 735
Operating lease current liabilities	—	30	30
Operating lease liabilities	—	339	339
Other long-term liabilities	102	(21)	81

(3) Acquisitions

Stitcher

On October 16, 2020, Sirius XM acquired certain assets and liabilities of Stitcher from The E.W. Scripps Company and certain of its subsidiaries ("Scripps") for $272 in cash, which amount includes net working capital adjustments. The agreement provides that Sirius XM will potentially make up to $60 in additional contingent payments to Scripps based on Stitcher achieving certain financial metrics in 2020 and 2021. The total purchase consideration of $296 includes $30 related to the acquisition date fair value of the contingent consideration, partially offset by working capital adjustments of $6. The fair value of the contingent consideration was determined using a probability-weighted cash flow model and will be remeasured to fair value at each subsequent reporting period. Stitcher is included in our Pandora reporting unit.

The table below summarizes the fair value of the assets acquired and liabilities assumed as of the acquisition date:

Acquired Assets:		
Receivables, net	$	21
Prepaid expenses and other current assets		16
Property and equipment		8
Intangible assets		38
Goodwill		218
Operating lease right-of-use assets		11
Total assets	$	312
Assumed Liabilities:		
Accounts payable and accrued expenses	$	4
Deferred revenue		1
Operating lease current liabilities		2
Operating lease liabilities		9
Total liabilities	$	16
Total consideration	$	296

The Stitcher acquisition was accounted for using the acquisition method of accounting. We recognized acquisition related costs of $4 that were expensed in Acquisition and restructuring costs in our consolidated statements of comprehensive income during the year ended December 31, 2020. The acquisition of Stitcher was financed through borrowings under our Credit Facility.

Simplecast

On June 16, 2020, Sirius XM acquired Simplecast for $28 in cash. Simplecast is a podcast management and analytics platform. Simplecast complements AdsWizz's advertising technology platform, allowing the company to offer podcasters a simple solution for management, hosting, analytics and advertising sales, and is included in the Pandora reporting unit. The Simplecast acquisition was accounted for using the acquisition method of accounting. We recognized goodwill of $17, amortizable intangible assets of $12, other assets of less than $1 and deferred tax liabilities of $1. Acquisition related costs of less than $1 were expensed in Acquisition and restructuring costs in our consolidated statements of comprehensive income during the year ended December 31, 2020.

Pandora

On February 1, 2019, through a series of transactions, Pandora Media, Inc., became an indirect wholly owned subsidiary of Sirius XM and continues to operate as Pandora Media, LLC (the "Pandora Acquisition"). In connection with the Pandora Acquisition, we purchased all of the outstanding shares of the capital stock of Pandora for $2,355 by converting each outstanding share of Pandora common stock into 1.44 shares of our common stock and we also canceled our preferred stock investment in Pandora for $524 for total consideration of $2,879. Net cash acquired was $313. As part of the Pandora Acquisition, Holdings unconditionally guaranteed all of the payment obligations of Pandora under its outstanding 1.75% convertible senior notes due 2020 and 1.75% convertible senior notes due 2023.

The table below shows the value of the consideration paid in connection with the Pandora Acquisition:

	Total
Pandora common stock outstanding	272
Exchange ratio	1.44
Common stock issued	392
Price per share of Holdings common stock	$ 5.83
Value of common stock issued to Pandora stockholders	$ 2,285
Value of replacement equity awards attributable to pre-combination service	$ 70
Consideration of common stock and replacement equity awards for pre-combination service	$ 2,355
Sirius XM's Pandora preferred stock investment (related party fair value instrument) canceled	$ 524
Total consideration for Pandora Acquisition	$ 2,879
Value attributed to par at $0.001 par value	$ 1
Balance to capital in excess of par value	$ 2,354

The table below summarizes the fair value of the assets acquired and liabilities assumed as of the acquisition date:

Acquired Assets:	
Cash and cash equivalents	$ 313
Receivables, net	353
Prepaid expenses and other current assets	109
Property and equipment	65
Intangible assets	1,107
Goodwill	1,553
Deferred tax assets	102
Operating lease right-of-use assets	104
Long term assets	7
Total assets	$ 3,713
Assumed Liabilities:	
Accounts payable and accrued expenses	$ 324
Deferred revenue	37
Operating lease current liabilities	28
Current maturities of debt	151
Long-term debt (a)	218
Operating lease liabilities	69
Other long-term liabilities	7
Total liabilities	$ 834
Total consideration	$ 2,879

(a) In order to present the assets acquired and liabilities assumed, the conversion feature associated with Pandora's convertible notes for $62 has been included within Long-term debt in the table above and included within Additional paid-in-capital within our statement of stockholders' equity (deficit). Refer to Note 14 for additional information.

The Pandora Acquisition was accounted for using the acquisition method of accounting. The excess purchase price over identifiable net tangible and intangible assets of $1,553 was recorded to Goodwill in our consolidated balance sheets as of December 31, 2019. Refer to Note 9 for a further discussion of Pandora goodwill which was impaired in the year ended December 31, 2020. A total of $776 has been allocated to identifiable intangible assets subject to amortization and relates to the assessed fair value of the acquired customer relationships and software and technology and is being amortized over the estimated weighted average useful lives of 8 and 5 years, respectively. A total of $331 has been allocated to identifiable

indefinite lived intangible assets and relates to the assessed fair value of the acquired trademarks. The fair value assessed for the majority of the remaining assets acquired and liabilities assumed equaled their carrying value. Goodwill represents synergies and economies of scale expected from the combination of services. Goodwill has been allocated to the Pandora segment. Additionally, in connection with the Pandora Acquisition, we acquired gross net operating loss ("NOL") carryforwards of approximately $1,287 for federal income tax purposes that are available to offset future taxable income. The acquired NOL's are limited by Section 382 of the Internal Revenue Code. Those limitations are not expected to impact our ability to fully utilize those NOL's within the carryforward period.

We recognized acquisition related costs of $84 that were expensed in Acquisition and restructuring costs in our consolidated statements of comprehensive income during the year ended December 31, 2019.

Pro Forma Financial Information

Pandora was consolidated into our financial statements starting on the acquisition date, February 1, 2019. The aggregate revenue and net loss of Pandora consolidated into our financial statements was $1,607 and $303, respectively, for the year ended December 31, 2019. The following pro forma financial information presents our results as if the Pandora Acquisition had occurred on January 1, 2018:

	For the Years Ended December 31,		
	2020	2019	2018
Total revenue	$ 8,046	$ 7,921	$ 7,348
Net income	$ 131	$ 938	$ 844

These pro forma results are based on estimates and assumptions, which we believe are reasonable. They are not the results that would have been realized had the acquisition actually occurred on January 1, 2018 and are not indicative of our consolidated results of operations in future periods. The pro forma results primarily include adjustments related to amortization of acquired intangible assets, depreciation of property and equipment, acquisition costs, fair value gain or loss on the Pandora investment and associated tax impacts.

(4) Fair Value Measurements

The fair value of a financial instrument is the amount at which the instrument could be exchanged in an orderly transaction between market participants. As of December 31, 2020 and 2019, the carrying amounts of cash and cash equivalents, receivables, and accounts payable approximated fair value due to the short-term nature of these instruments. ASC 820, *Fair Value Measurements and Disclosures*, establishes a fair value hierarchy for input into valuation techniques as follows:

i. Level 1 input: unadjusted quoted prices in active markets for identical instrument;

ii. Level 2 input: observable market data for the same or similar instrument but not Level 1, including quoted prices for identical or similar assets or liabilities in markets that are not active or other inputs that are observable or can be corroborated by observable market data for substantially the full term of the assets or liabilities; and

iii. Level 3 input: unobservable inputs developed using management's assumptions about the inputs used for pricing the asset or liability.

Investments are periodically reviewed for impairment and an impairment is recorded whenever declines in fair value below carrying value are determined to be other than temporary. In making this determination, we consider, among other factors, the severity and duration of the decline as well as the likelihood of a recovery within a reasonable timeframe.

Our assets and liabilities measured at fair value were as follows:

	December 31, 2020				December 31, 2019			
	Level 1	Level 2	Level 3	Total Fair Value	Level 1	Level 2	Level 3	Total Fair Value
Liabilities:								
Debt [(a)]	—	$ 9,011	—	$ 9,011	—	$ 8,378	—	$ 8,378

(a) The fair value for non-publicly traded instruments is based upon estimates from a market maker and brokerage firm. Refer to Note 14 for information related to the carrying value of our debt as of December 31, 2020 and 2019.

(5) Restructuring Costs

In May 2020, we terminated the Automatic service, which was part of our connected services business. During the year ended December 31, 2020, we recorded $24 of restructuring expenses primarily related to the write down of property and equipment, definite lived intangible assets and certain other assets in Acquisition and restructuring costs in our consolidated statements of comprehensive income. The termination of the Automatic service does not meet the requirements to be reported as a discontinued operation in our consolidated statements of comprehensive income because the termination of the service does not represent a strategic shift that will have a major effect on our operations and financial results. There were no restructuring costs during the years ended December 31, 2019 and 2018.

(6) Earnings per Share

Basic net income per common share is calculated by dividing the income available to common stockholders by the weighted average common shares outstanding during each reporting period. Diluted net income per common share adjusts the weighted average number of common shares outstanding for the potential dilution that could occur if common stock equivalents (stock options, restricted stock units and convertible debt) were exercised or converted into common stock, calculated using the treasury stock method. We had no participating securities during the years ended December 31, 2020, 2019 and 2018.

Common stock equivalents of 62, 66, and 40 for the years ended December 31, 2020, 2019 and 2018, respectively, were excluded from the calculation of diluted net income per common share as the effect would have been anti-dilutive. We issued 392 shares of our common stock in connection with the Pandora Acquisition.

	For the Years Ended December 31,		
	2020	2019	2018
Numerator:			
Net Income available to common stockholders for basic net income per common share	$ 131	$ 914	$ 1,176
Effect of interest on assumed conversions of convertible notes, net of tax	8	7	—
Net Income available to common stockholders for dilutive net income per common share	$ 139	$ 921	$ 1,176
Denominator:			
Weighted average common shares outstanding for basic net income per common share	4,330	4,501	4,462
Weighted average impact of assumed convertible notes	30	28	—
Weighted average impact of dilutive equity instruments	69	87	99
Weighted average shares for diluted net income per common share	4,429	4,616	4,561
Net income per common share:			
Basic	$ 0.03	$ 0.20	$ 0.26
Diluted	$ 0.03	$ 0.20	$ 0.26

(7) Receivables, net

Receivables, net, includes customer accounts receivable, receivables from distributors and other receivables. We do not have any customer receivables that individually represent more than ten percent of our receivables.

Customer accounts receivable, net, includes receivables from our subscribers, advertising customers, including advertising agencies and other customers, and is stated at amounts due, net of an allowance for doubtful accounts. Our allowance for doubtful accounts is based upon our assessment of various factors. We consider historical experience, the age of the receivable balances, current economic conditions, industry experience and other factors that may affect the counterparty's ability to pay. Bad debt expense is included in Customer service and billing expense in our consolidated statements of comprehensive income.

Receivables from distributors primarily include billed and unbilled amounts due from automakers for services included in the sale or lease price of vehicles, as well as billed amounts due from wholesale distributors of our satellite radios. Other receivables primarily include amounts due from manufacturers of our radios, modules and chipsets where we are entitled to subsidies and royalties based on the number of units produced. We have not established an allowance for doubtful accounts for our receivables from distributors or other receivables as we have historically not experienced any significant collection issues with automakers or other third parties and do not expect issues in the foreseeable future.

Receivables, net, consists of the following:

	December 31, 2020	December 31, 2019
Gross customer accounts receivable	$ 574	$ 546
Allowance for doubtful accounts	(15)	(14)
Customer accounts receivable, net	$ 559	$ 532
Receivables from distributors	73	113
Other receivables	40	25
Total receivables, net	$ 672	$ 670

(8) Inventory, net

Inventory consists of finished goods, refurbished goods, chipsets and other raw material components used in manufacturing radios. Inventory is stated at the lower of cost or market. We record an estimated allowance for inventory that is considered slow moving or obsolete or whose carrying value is in excess of net realizable value. The provision related to products purchased for resale in our direct to consumer distribution channel and components held for resale by us is reported as a component of Cost of equipment in our consolidated statements of comprehensive income. The provision related to inventory consumed in our OEM channel is reported as a component of Subscriber acquisition costs in our consolidated statements of comprehensive income.

Inventory, net, consists of the following:

	December 31, 2020	December 31, 2019
Raw materials	$ —	$ 3
Finished goods	13	13
Allowance for obsolescence	(3)	(5)
Total inventory, net	$ 10	$ 11

(9) Goodwill

Goodwill represents the excess of the purchase price over the estimated fair value of the net tangible and identifiable intangible assets acquired in business combinations. Our annual impairment assessment of our two reporting units is performed as of the fourth quarter of each year, and an assessment is performed at other times if an event occurs or circumstances change that would more likely than not reduce the fair value of a reporting unit below its carrying amount. ASC 350, *Intangibles - Goodwill and Other*, states that an entity should perform its annual or interim goodwill impairment test by comparing the fair value of a reporting unit with its carrying amount and recognize an impairment charge for the amount by which the carrying amount exceeds the reporting unit's fair value. ASC 350 also states that a reporting unit with a zero or negative carrying amount is not required to perform a qualitative assessment. Our Sirius XM reporting unit, which has an allocated goodwill balance of $2,290, had a negative carrying amount as of December 31, 2020.

We determined the fair value of our reporting units using a combination of an income approach, employing a discounted cash flow model, and a market approach. The discounted cash flow model relies on making assumptions, such as the extent of the economic downturn related to the COVID-19 pandemic, the expected timing of recovery, expected growth in profitability and discount rate, which we believe are appropriate. Additionally, assumptions related to guideline company financial multiples used in the market approach decreased based on current market observations. The results of our goodwill impairment test indicated that the estimated fair value of the Sirius XM reporting unit exceeded its carrying amount. The carrying amount of the Pandora reporting unit exceeded its estimated fair value primarily due to a reduction in the long-term forecast to reflect

increased costs related to royalty rates for streaming and increased uncertainty surrounding the projected demand for advertising and decrease of listening hours. As a result, we recorded a goodwill impairment charge of $956 during the year ended December 31, 2020 to write down the carrying amount of the Pandora goodwill in the Impairment charges line item in our consolidated statements of comprehensive income. No impairment losses were recorded for goodwill during the years ended December 31, 2019 and 2018.

As of December 31, 2020, the cumulative balance of goodwill impairments recorded was $5,722, of which $4,766 was recognized during the year ended December 31, 2008 and is included in the carrying amount of the goodwill allocated to our Sirius XM reporting unit and $956 was recognized during the year ended December 31, 2020 and is included in the carrying amount of the goodwill allocated to our Pandora reporting unit.

As a result of the Simplecast and Stitcher acquisitions, we recorded additional goodwill of $17 and $218, respectively, during the year ended December 31, 2020 in our Pandora reporting unit. The goodwill of Simplecast is not deductible for tax purposes, however, the goodwill of Stitcher is deductible as it was an asset acquisition. Refer to Note 3 for information on these acquisitions.

Refer to the table below for our goodwill activity for the years ended December 31, 2020 and 2019.

	Sirius XM	Pandora	Total
Balance at December 31, 2018	$ 2,290	$ —	$ 2,290
Acquisition	—	1,553	1,553
Balance at December 31, 2019	2,290	1,553	3,843
Acquisition	—	235	235
Impairment charge	—	(956)	(956)
Balance at December 31, 2020	$ 2,290	$ 832	$ 3,122

(10) Intangible Assets

Our intangible assets include the following:

		December 31, 2020			December 31, 2019		
	Weighted Average Useful Lives	Gross Carrying Value	Accumulated Amortization	Net Carrying Value	Gross Carrying Value	Accumulated Amortization	Net Carrying Value
Indefinite life intangible assets:							
FCC licenses	Indefinite	$ 2,084	$ —	$ 2,084	$ 2,084	$ —	$ 2,084
Trademarks	Indefinite	250	—	250	251	—	251
Definite life intangible assets:							
OEM relationships	15 years	220	(105)	115	220	(90)	130
Licensing agreements	12 years	45	(45)	—	45	(42)	3
Software and technology	7 years	31	(16)	15	35	(25)	10
Due to Pandora and Stitcher Acquisitions:							
Indefinite life intangible assets:							
Trademarks	Indefinite	$ 311	$ —	$ 311	$ 331	$ —	$ 331
Definite life intangible assets:							
Customer relationships	8 years	441	(104)	337	403	(49)	354
Software and technology	5 years	373	(145)	228	373	(69)	304
Total intangible assets		$ 3,755	$ (415)	$ 3,340	$ 3,742	$ (275)	$ 3,467

Indefinite Life Intangible Assets

We have identified our FCC licenses and XM and Pandora trademarks as indefinite life intangible assets after considering the expected use of the assets, the regulatory and economic environment within which they are used and the effects of obsolescence on their use.

We hold FCC licenses to operate our satellite digital audio radio service and provide ancillary services. Each of the FCC licenses authorizes us to use radio spectrum, a reusable resource that does not deplete or exhaust over time.

ASC 350-30-35, *Intangibles - Goodwill and Other*, provides for an option to first perform a qualitative assessment to determine whether it is more likely than not that an asset is impaired. If the qualitative assessment supports that it is more likely than not that the fair value of the asset exceeds its carrying value, a quantitative impairment test is not required. If the qualitative assessment does not support the fair value of the asset, then a quantitative assessment is performed. Our annual impairment assessment of our identifiable indefinite lived intangible assets is performed as of the fourth quarter of each year. An assessment is performed at other times if an event occurs or circumstances change that would more likely than not reduce the fair value of the asset below its carrying value. If the carrying value of the intangible assets exceeds its fair value, an impairment loss is recognized in an amount equal to that excess.

We completed a quantitative assessment of our FCC licenses and XM and Pandora trademarks during the fourth quarter of 2020 and qualitative assessments during the fourth quarter of 2019 and 2018. As of the date of our annual assessment for 2020, our impairment assessment of the fair value of our indefinite intangible assets indicated that the carrying value of our Pandora trademark exceeded the fair value of the asset by $20. The excess carrying value has been written off and recognized in the Impairment charges line item in our consolidated statements of comprehensive income. The impairment assessment for our FCC licenses and XM trademark indicate that the fair value of such assets substantially exceeded their carrying value and therefore were not at risk of impairment. As of the date of our annual assessment for 2019 and 2018, our impairment assessment of the fair value of our indefinite intangible assets indicated that the fair value of such assets substantially exceeded their carrying value and therefore were not at risk of impairment.

During the year ended December 31, 2020, we also recognized an impairment loss of less than $1 for intangible assets with indefinite lives related to the termination of the Automatic service.

No impairment loss was recognized for intangible assets with indefinite lives during the years ended December 31, 2019 and 2018.

Definite Life Intangible Assets

Definite-lived intangible assets are amortized over their respective estimated useful lives to their estimated residual values, in a pattern that reflects when the economic benefits will be consumed, and are reviewed for impairment under the provisions of ASC 360-10-35, *Property, Plant and Equipment/Overall/Subsequent Measurement*. We review intangible assets subject to amortization for impairment whenever events or circumstances indicate that the carrying amount of an asset may not be recoverable. If the sum of the expected cash flows, undiscounted and without interest, is less than the carrying amount of the asset, an impairment loss is recognized in an amount by which the carrying amount of the asset exceeds its fair value. No impairment loss was recognized for intangible assets with definite lives during the years ended December 31, 2020, 2019 and 2018.

Amortization expense for all definite life intangible assets was $152, $141 and $23 for the years ended December 31, 2020, 2019 and 2018, respectively. There were retirements of definite lived intangible assets of $17, which included a loss of $4, due to the termination of the Automatic service, during the year ended December 31, 2020. As part of the Simplecast acquisition, $12 was allocated to identifiable intangible assets subject to amortization and related to the assessed fair value of software and technology, which was determined by using the multi-period excess earnings method, as of the acquisition date. As part of the Stitcher acquisition, $38 was allocated to identifiable intangible assets subject to amortization and related to the assessed fair value of advertising relationship of $6, trademark of $3 and talent and content contracts of $29.

The expected amortization expense for each of the fiscal years 2021 through 2025 and for periods thereafter is as follows:

Years ending December 31,	Amount
2021	$ 153
2022	154
2023	141
2024	75
2025	69
Thereafter	103
Total definite life intangible assets, net	$ 695

(11) Property and Equipment

Property and equipment, including satellites, are stated at cost, less accumulated depreciation. Equipment under capital leases is stated at the present value of minimum lease payments. Depreciation is calculated using the straight-line method over the following estimated useful life of the asset:

Satellite system	15 years
Terrestrial repeater network	5 - 15 years
Broadcast studio equipment	3 - 15 years
Capitalized software and hardware	2 - 7 years
Satellite telemetry, tracking and control facilities	3 - 15 years
Furniture, fixtures, equipment and other	2 - 7 years
Building	20 or 30 years
Leasehold improvements	Lesser of useful life or remaining lease term

We review long-lived assets, such as property and equipment, for impairment whenever events or changes in circumstances indicate the carrying amount may not be recoverable. Recoverability of assets to be held and used is measured by a comparison of the carrying amount of an asset to the estimated undiscounted future cash flows expected to be generated by the asset. If the carrying amount of an asset exceeds the estimated future cash flows, an impairment charge is recognized in an amount by which the carrying amount exceeds the fair value of the asset. We did not record any impairments during the years ended December 31, 2020, 2019 and 2018.

Property and equipment, net, consists of the following:

	December 31, 2020	December 31, 2019
Satellite system	$ 1,587	$ 1,587
Terrestrial repeater network	105	100
Leasehold improvements	111	105
Broadcast studio equipment	100	137
Capitalized software and hardware	1,372	1,086
Satellite telemetry, tracking and control facilities	96	87
Furniture, fixtures, equipment and other	92	89
Land	38	38
Building	63	63
Construction in progress	510	505
Total property and equipment	4,074	3,797
Accumulated depreciation and amortization	(2,445)	(2,171)
Property and equipment, net	$ 1,629	$ 1,626

Construction in progress consists of the following:

	December 31, 2020	December 31, 2019
Satellite system	$ 429	$ 371
Terrestrial repeater network	8	7
Capitalized software and hardware	52	107
Other	21	20
Construction in progress	$ 510	$ 505

Depreciation and amortization expense on property and equipment was $354, $327 and $278 for the years ended December 31, 2020, 2019 and 2018, respectively. Property and equipment of $94, which included a loss of $13 related to the termination of the Automatic service, was retired during the year ended December 31, 2020. We retired property and equipment of $9 and $35 during the years ended December 31, 2019 and 2018.

We capitalize a portion of the interest on funds borrowed to finance the construction and launch of our satellites. Capitalized interest is recorded as part of the asset's cost and depreciated over the satellite's useful life. Capitalized interest costs were $19, $17 and $12 for the years ended December 31, 2020, 2019 and 2018, respectively, which related to the construction of our SXM-7 and SXM-8 satellites. We also capitalize a portion of share-based compensation related to employee time for capitalized software projects. Capitalized share-based compensation costs were $17 and $13 for the years ended December 31, 2020 and 2019, respectively. We did not capitalize any share-based compensation for the year ended December 31, 2018.

Satellites

As of December 31, 2020, we operate a fleet of five satellites. Each satellite requires an FCC license, and prior to the expiration of each license, we are required to apply for a renewal of the FCC satellite license. The renewal and extension of our licenses is reasonably certain at minimal cost, which is expensed as incurred. The chart below provides certain information on our satellites as of December 31, 2020:

Satellite Description	Year Delivered	Estimated End of Depreciable Life	FCC License Expiration Year
SIRIUS FM-5	2009	2024	2025
SIRIUS FM-6	2013	2028	2022
XM-3	2005	2020	2021
XM-4	2006	2021	2022
XM-5	2010	2025	2026

We have entered into agreements for the design construction and launch of two satellites, SXM-7 and SXM-8. On December 13, 2020, SXM-7 was successfully launched. In-orbit testing of SXM-7 began on January 4, 2021. During in-orbit testing of SXM-7, events occurred which have caused failures of certain SXM-7 payload units. An evaluation of SXM-7 is underway. The full extent of the damage to SXM-7 is not yet known. As of December 31, 2020, we had $220 capitalized in construction in progress related to SXM-7.

(12) Leases

We have operating and finance leases for offices, terrestrial repeaters, data centers and certain equipment. Our leases have remaining lease terms of less than 1 year to 17 years, some of which may include options to extend the leases for up to 5 years, and some of which may include options to terminate the leases within 1 year. We elected the practical expedient to account for the lease and non-lease components as a single component. Additionally, we elected the practical expedient to not recognize right-of-use assets or lease liabilities for short-term leases, which are those leases with a term of twelve months or less at the lease commencement date.

The components of lease expense were as follows:

	For the Years Ended December 31,	
	2020	2019
Operating lease cost	$ 82	$ 80
Finance lease cost	1	4
Sublease income	(2)	(3)
Total lease cost	$ 81	$ 81

Supplemental cash flow information related to leases was as follows:

	For the Years Ended December 31,	
	2020	2019
Cash paid for amounts included in the measurement of lease liabilities:		
Operating cash flows from operating leases	$ 79	$ 70
Financing cash flows from finance leases	$ 1	$ 3
Right-of-use assets obtained in exchange for lease obligations:		
Operating leases	$ 7	$ 83

Supplemental balance sheet information related to leases was as follows:

	December 31, 2020	December 31, 2019
Operating Leases		
Operating lease right-of-use assets	$ 427	$ 466
Operating lease current liabilities	48	46
Operating lease liabilities	419	456
Total operating lease liabilities	$ 467	$ 502

	December 31, 2020	December 31, 2019
Finance Leases		
Property and equipment, gross	$ 8	$ 15
Accumulated depreciation	(7)	(12)
Property and equipment, net	$ 1	$ 3
Current maturities of debt	$ 1	$ 1
Long-term debt	—	1
Total finance lease liabilities	$ 1	$ 2

	December 31, 2020	December 31, 2019
Weighted Average Remaining Lease Term		
Operating leases	9 years	9 years
Finance leases	1 year	2 years

	December 31, 2020	December 31, 2019
Weighted Average Discount Rate		
Operating leases	5.3 %	5.3 %
Finance leases	1.7 %	1.7 %

Maturities of lease liabilities were as follows:

	Operating Leases	Finance Leases
Year ending December 31,		
2020 (remaining)	$ 71	$ —
2021	74	1
2022	71	—
2023	62	—
2024	62	—
Thereafter	247	—
Total future minimum lease payments	587	1
Less imputed interest	(120)	—
Total	$ 467	$ 1

(13) Related Party Transactions

In the normal course of business, we enter into transactions with related parties such as Sirius XM Canada and SoundCloud.

Liberty Media

As of December 31, 2020, Liberty Media beneficially owned, directly and indirectly, approximately 76% of the outstanding shares of our common stock. Liberty Media has one executive, one senior advisor and one of its directors on our board of directors. Gregory B. Maffei, the President and Chief Executive Officer of Liberty Media, is the Chairman of our board of directors.

Sirius XM Canada

Sirius XM holds a 70% equity interest and 33% voting interest in Sirius XM Canada, a privately held corporation. We own 591 shares of preferred stock of Sirius XM Canada, which has a liquidation preference of one Canadian dollar per share. Sirius XM also made a loan to Sirius XM Canada in the aggregate amount of $131. The loan is denominated in Canadian dollars and is considered a long-term investment with any unrealized gains or losses reported within Accumulated other comprehensive (loss) income. During the years ended December 31, 2020 and 2019, Sirius XM Canada repaid $11 and less than $1 of the principal amount of the loan, respectively.

Sirius XM has a Services Agreement and an Advisory Services Agreement with Sirius XM Canada. Each agreement has a thirty-year term. Pursuant to the Services Agreement, Sirius XM Canada currently pays Sirius XM 25% of its gross revenues on a monthly basis, and pursuant to the Advisory Services Agreement, Sirius XM Canada pays Sirius XM 5% of its gross revenues on a monthly basis.

Sirius XM Canada is accounted for as an equity method investment, and its results are not consolidated in our consolidated financial statements. Sirius XM Canada does not meet the requirements for consolidation as we do not have the ability to direct the most significant activities that impact Sirius XM Canada's economic performance.

Our related party long-term assets as of December 31, 2020 and December 31, 2019 included the carrying value of our investment balance in Sirius XM Canada of $332 and $321, respectively, and, as of December 31, 2020 and December 31, 2019, also included $123 and $131, respectively, for the long-term value of the outstanding loan to Sirius XM Canada.

Sirius XM Canada paid gross dividends to us of $2 during each of the years ended December 31, 2020, 2019 and 2018. Dividends are first recorded as a reduction to our investment balance in Sirius XM Canada to the extent a balance exists and then as Other (expense) income for any remaining portion.

We recorded revenue from Sirius XM Canada as Other revenue in our consolidated statements of comprehensive income of $97, $98 and $97 during the years ended December 31, 2020, 2019 and 2018.

SoundCloud

In February 2020, Sirius XM completed a $75 investment in SoundCloud's Series G Membership Units ("Series G Units"). The Series G Units are convertible at the option of the holders at any time into shares of ordinary membership units of SoundCloud at a ratio of one ordinary membership unit for each Series G Unit. The investment in SoundCloud is accounted for as an equity method investment which is recorded in Related party long-term assets in our consolidated balance sheet. Sirius XM has appointed two individuals to serve on SoundCloud's nine-member board of managers. For the year ended December 31, 2020, Sirius XM's share of SoundCloud's net loss was $1, which was recorded in Other income (expense) in our consolidated statement of comprehensive income.

In addition to our investment in SoundCloud, Pandora has an agreement with SoundCloud to be its exclusive US ad sales representative. Through this arrangement Pandora offers advertisers the ability to execute campaigns in the US across the Pandora and SoundCloud listening platforms. We recorded revenue share expense of $55, $40 and $0 for the years ended December 31, 2020, 2019 and 2018, respectively. We also had related party liabilities of $24 as of December 31, 2020 related to this agreement.

(14) Debt

Our debt as of December 31, 2020 and December 31, 2019 consisted of the following:

Issuer / Borrower	Issued	Debt	Maturity Date	Interest Payable	Principal Amount at December 31, 2020	Carrying value[a] at December 31, 2020	Carrying value[a] at December 31, 2019
Pandora (b) (c) (h)	December 2015	1.75% Convertible Senior Notes	December 1, 2020	semi-annually on June 1 and December 1	$ —	$ —	$ 1
Sirius XM (d)	July 2017	3.875% Senior Notes	August 1, 2022	semi-annually on February 1 and August 1	1,000	997	995
Sirius XM (d) (g)	May 2013	4.625% Senior Notes	May 15, 2023	semi-annually on May 15 and November 15	—	—	498
Pandora (b) (e)	June 2018	1.75% Convertible Senior Notes	December 1, 2023	semi-annually on June 1 and December 1	193	170	163
Sirius XM (d)	July 2019	4.625% Senior Notes	July 15, 2024	semi-annually on January 15 and July 15	1,500	1,488	1,485
Sirius XM (d) (g)	March 2015	5.375% Senior Notes	April 15, 2025	semi-annually on April 15 and October 15	—	—	993
Sirius XM (d)	May 2016	5.375% Senior Notes	July 15, 2026	semi-annually on January 15 and July 15	1,000	993	992
Sirius XM (d)	July 2017	5.00% Senior Notes	August 1, 2027	semi-annually on February 1 and August 1	1,500	1,490	1,488
Sirius XM (d)	June 2019	5.500% Senior Notes	July 1, 2029	semi-annually on January 1 and July 1	1,250	1,237	1,236
Sirius XM (d)	June 2020	4.125% Senior Notes	July 1, 2030	semi-annually on January 1 and July 1	1,500	1,484	—
Sirius XM (f)	December 2012	Senior Secured Revolving Credit Facility (the "Credit Facility")	June 29, 2023	variable fee paid quarterly	649	649	—
Sirius XM	Various	Finance leases	Various	n/a	n/a	1	2
Total Debt						8,509	7,853
Less: total current maturities						1	2
Less: total deferred financing costs						9	9
Total long-term debt						$ 8,499	$ 7,842

(a) The carrying value of the obligations is net of any remaining unamortized original issue discount.
(b) Holdings has unconditionally guaranteed all of the payment obligations of Pandora under these notes.
(c) We acquired $152 in principal amount of the 1.75% Convertible Senior Notes due 2020 as part of the Pandora Acquisition. On February 14, 2019, Pandora announced a tender offer to repurchase for cash any and all of its outstanding 1.75% Convertible Senior Notes due 2020 at a price equal to 100% of the aggregate principal amount thereof plus accrued and unpaid interest thereon to, but not including, the repurchase date. On March 18, 2019, we purchased $151 in aggregate principal amount of the 1.75% Convertible Senior Notes due 2020 that had been validly tendered and not validly withdrawn in the repurchase offer. We recorded a $1 Loss on extinguishment of debt in connection with this transaction. In addition, we unwound a capped call security acquired as part of the Pandora Acquisition in March 2019 for $3.
(d) All material domestic subsidiaries, including Pandora and its subsidiaries, that guarantee the Credit Facility have guaranteed these notes.
(e) We acquired $193 in principal amount of the 1.75% Convertible Senior Notes due 2023 as part of the Pandora Acquisition. We allocate the principal amount of the 1.75% Convertible Senior Notes due 2023 between the liability and equity components. The value assigned to the debt components of the 1.75% Convertible Senior Notes due 2023 is the estimated fair value as of the issuance date of similar debt without the conversion feature. The difference between the fair value of the debt and this estimated fair value represents the value which has been assigned to the equity component. The equity component is recorded to additional paid-in capital and is not remeasured as long as it continues to meet the conditions for equity classification. The excess of the principal amount of the Notes

over the carrying amount of the liability component is recorded as a debt discount and is being amortized to interest expense using the effective interest method through the December 1, 2023 maturity date. The 1.75% Convertible Senior Notes due 2023 were not convertible into common stock and not redeemable as of December 31, 2020. As a result, we have classified the debt as Long-term within our consolidated balance sheets.

(f) The $1,750 Credit Facility expires in June 2023. Sirius XM's obligations under the Credit Facility are guaranteed by certain of its material domestic subsidiaries, including Pandora and its subsidiaries, and are secured by a lien on substantially all of Sirius XM's assets and the assets of its material domestic subsidiaries. Interest on borrowings is payable on a monthly basis and accrues at a rate based on LIBOR plus an applicable rate. Sirius XM is also required to pay a variable fee on the average daily unused portion of the Credit Facility which is payable on a quarterly basis. The variable rate for the unused portion of the Credit Facility was 0.25% per annum as of December 31, 2020. All of Sirius XM's outstanding borrowings under the Credit Facility are classified as Long-term debt within our consolidated balance sheets due to the long-term maturity of this debt. Additionally, the amount available for future borrowing under the Credit Facility is reduced by letters of credit issued for the benefit of Pandora, which were $1 as of December 31, 2020.

(g) On July 9, 2020, Sirius XM redeemed $500 in outstanding principal amount of the 4.625% Senior Notes due 2023 for an aggregate purchase price, including premium and interest, of $507. On July 9, 2020, Sirius XM also redeemed $1,000 in outstanding principal amount of the 5.375% Senior Notes due 2025 for an aggregate purchase price, including premium and interest, of $1,039. Sirius XM used the proceeds from the 4.125% Senior Notes due 2030 for both redemptions. During the year ended December 31, 2020, we recognized $40 to Loss on extinguishment of debt, consisting primarily of unamortized discount, deferred financing fees and redemption premium, as a result of these redemptions.

(h) On December 1, 2020, the 1.75% Convertible Senior Notes due 2020 were paid at their stated maturity.

Covenants and Restrictions

Under the Credit Facility, Sirius XM, our wholly owned subsidiary, must comply with a debt maintenance covenant that it cannot exceed a total leverage ratio, calculated as consolidated total debt to consolidated operating cash flow, of 5.0 to 1.0. The Credit Facility generally requires compliance with certain covenants that restrict Sirius XM's ability to, among other things, (i) incur additional indebtedness, (ii) incur liens, (iii) pay dividends or make certain other restricted payments, investments or acquisitions, (iv) enter into certain transactions with affiliates, (v) merge or consolidate with another person, (vi) sell, assign, lease or otherwise dispose of all or substantially all of Sirius XM's assets, and (vii) make voluntary prepayments of certain debt, in each case subject to exceptions.

The indentures governing Sirius XM's notes restrict Sirius XM's non-guarantor subsidiaries' ability to create, assume, incur or guarantee additional indebtedness without such non-guarantor subsidiary guaranteeing each such series of notes on a pari passu basis. The indentures governing the notes also contain covenants that, among other things, limit Sirius XM's ability and the ability of its subsidiaries to create certain liens; enter into sale/leaseback transactions; and merge or consolidate.

Under Sirius XM's debt agreements, the following generally constitute an event of default: (i) a default in the payment of interest; (ii) a default in the payment of principal; (iii) failure to comply with covenants; (iv) failure to pay other indebtedness after final maturity or acceleration of other indebtedness exceeding a specified amount; (v) certain events of bankruptcy; (vi) a judgment for payment of money exceeding a specified aggregate amount; and (vii) voidance of subsidiary guarantees, subject to grace periods where applicable. If an event of default occurs and is continuing, our debt could become immediately due and payable.

The indentures governing the Pandora Convertible Notes contain covenants that limit Pandora’s ability to merge or consolidate and provide for customary events of default, which include nonpayment of principal or interest, breach of covenants, payment defaults or acceleration of other indebtedness and certain events of bankruptcy.

At December 31, 2020 and December 31, 2019, we were in compliance with our debt covenants.

Pandora Convertible Notes

Pandora's 1.75% Convertible Senior Notes due 2023 (the “Pandora 2023 Notes”) are unsecured, senior obligations of Pandora. Holdings has guaranteed the payment and performance obligations of Pandora under the Pandora 2023 Notes and the indenture governing the Pandora 2023 Notes.

The Pandora 2023 Notes will mature on December 1, 2023, unless earlier repurchased or redeemed by Pandora or converted in accordance with their terms. As of December 31, 2020, the conversion rate applicable to the Pandora 2023 Notes

was 151.9533 shares of Holdings' common stock per one thousand principal amount of the Pandora 2023 Notes plus carryforward adjustments not yet effected pursuant to the terms of the indenture governing the Pandora 2023 Notes.

(15) Stockholders' Equity

Common Stock, par value $0.001 per share

We are authorized to issue up to 9,000 shares of common stock. There were 4,176 and 4,412 shares of common stock issued and 4,173 and 4,412 shares of common stock outstanding on December 31, 2020 and December 31, 2019, respectively.

As of December 31, 2020, there were 259 shares of common stock reserved for issuance in connection with outstanding stock-based awards to members of our board of directors, employees and third parties.

Quarterly Dividends

During the year ended December 31, 2020, we declared and paid the following dividends:

Declaration Date	Dividend Per Share	Record Date	Total Amount	Payment Date
January 30, 2020	$ 0.01331	February 12, 2020	$ 59	February 28, 2020
April 21, 2020	$ 0.01331	May 8, 2020	$ 58	May 29, 2020
July 14, 2020	$ 0.01331	August 7, 2020	$ 58	August 31, 2020
October 6, 2020	$ 0.01464	November 6, 2020	$ 62	November 30, 2020

Stock Repurchase Program

As of December 31, 2020, our board of directors had approved for repurchase an aggregate of $16,000 of our common stock. Our board of directors did not establish an end date for this stock repurchase program. Shares of common stock may be purchased from time to time on the open market, pursuant to pre-set trading plans meeting the requirements of Rule 10b5-1 under the Exchange Act, in privately negotiated transactions, including transactions with Liberty Media and its affiliates, or otherwise. As of December 31, 2020, our cumulative repurchases since December 2012 under our stock repurchase program totaled 3,314 shares for $14,408, and $1,592 remained available for future share repurchases under our stock repurchase program.

The following table summarizes our total share repurchase activity for the years ended:

	December 31, 2020		December 31, 2019		December 31, 2018	
Share Repurchase Type	Shares	Amount	Shares	Amount	Shares	Amount
Open Market Repurchases [(a)]	267	$ 1,574	364	$ 2,159	209	$ 1,297

(a) As of December 31, 2020, $19 of common stock repurchases had not settled, nor been retired, and were recorded as Treasury stock within our consolidated balance sheets and consolidated statement of stockholders' equity (deficit).

Preferred Stock, par value $0.001 per share

We are authorized to issue up to 50 shares of undesignated preferred stock with a liquidation preference of $0.001 per share. There were no shares of preferred stock issued or outstanding as of December 31, 2020 and December 31, 2019.

(16) Benefit Plans

We recognized share-based payment expense of $223, $250 and $133 for the years ended December 31, 2020, 2019 and 2018, respectively. The amount recognized during the year ended December 31, 2019 includes $21 of share-based compensation expense recorded in Acquisition and restructuring costs in our consolidated statements of comprehensive income.

We account for equity instruments granted in accordance with ASC 718, *Compensation - Stock Compensation*. ASC 718 requires all share-based compensation payments to be recognized in the financial statements based on fair value. We use the Black-Scholes-Merton option-pricing model to value stock option awards and have elected to treat awards with graded vesting as a single award. Share-based compensation expense is recognized ratably over the requisite service period, which is generally

the vesting period. We measure restricted stock awards and units using the fair market value of the restricted shares of common stock on the day the award is granted. Stock-based awards granted to employees, non-employees and members of our board of directors include stock options and restricted stock units.

Fair value as determined using the Black-Scholes-Merton model varies based on assumptions used for the expected life, expected stock price volatility, expected dividend yield and risk-free interest rates. For the years ended December 31, 2020, 2019 and 2018, we estimated the fair value of awards granted using the hybrid approach for volatility, which weights observable historical volatility and implied volatility of qualifying actively traded options on our common stock. The expected life assumption represents the weighted-average period stock-based awards are expected to remain outstanding. These expected life assumptions are established through a review of historical exercise behavior of stock-based award grants with similar vesting periods. Where historical patterns do not exist for non-employees, contractual terms are used. Dividend yield is based on the current expected annual dividend per share and our stock price. The risk-free interest rate represents the daily treasury yield curve rate at the grant date based on the closing market bid yields on actively traded U.S. treasury securities in the over-the-counter market for the expected term. Our assumptions may change in future periods.

2015 Long-Term Stock Incentive Plan

In May 2015, our stockholders approved the Sirius XM Holdings Inc. 2015 Long-Term Stock Incentive Plan (the "2015 Plan"). Employees, consultants and members of our board of directors are eligible to receive awards under the 2015 Plan. The 2015 Plan provides for the grant of stock options, restricted stock awards, restricted stock units and other stock-based awards that the compensation committee of our board of directors deems appropriate. Stock-based awards granted under the 2015 Plan are generally subject to a graded vesting requirement, which is generally three to four years from the grant date. Stock options generally expire ten years from the date of grant. Restricted stock units include performance-based restricted stock units ("PRSUs"), the vesting of which are subject to the achievement of performance goals and the employee's continued employment and generally cliff vest on the third anniversary of the grant date. Each restricted stock unit entitles the holder to receive one share of common stock upon vesting. As of December 31, 2020, 160 shares of common stock were available for future grants under the 2015 Plan.

In connection with the Pandora Acquisition, we assumed all shares available for issuance (including any shares that later become available for issuance in accordance with the terms of the applicable plans) under each of the 2014 Stock Incentive Plan of AdsWizz Inc., the Pandora Media, Inc. 2011 Equity Incentive Plan, the Pandora Media, Inc. 2004 Stock Plan and the TheSavageBeast.com, Inc. 2000 Stock Incentive Plan, which were previously approved by stockholders of Pandora or the applicable adopting entity. All shares available under these stock plans became additional shares available for grant pursuant to the terms of the 2015 Plan (as adjusted, to the extent appropriate, to reflect the application of the exchange ratio). Subject to certain limitations set forth in the 2015 Plan, such shares may be used for awards under the 2015 Plan.

Other Plans

We maintain six share-based benefit plans in addition to the 2015 Plan — the Sirius XM Radio Inc. 2009 Long-Term Stock Incentive Plan, the Amended and Restated Sirius Satellite Radio 2003 Long-Term Stock Incentive Plan, the 2014 Stock Incentive Plan of AdsWizz Inc., the Pandora Media, Inc. 2011 Equity Incentive Plan, the Pandora Media, Inc. 2004 Stock Plan and the TheSavageBeast.com, Inc. 2000 Stock Incentive Plan. Excluding dividend equivalent units granted as a result of a declared dividend, no further awards may be made under these plans.

The following table summarizes the weighted-average assumptions used to compute the fair value of options granted to employees and members of our board of directors:

	For the Years Ended December 31,		
	2020	2019	2018
Risk-free interest rate	1.0%	2.4%	2.7%
Expected life of options — years	3.91	3.41	4.38
Expected stock price volatility	28%	26%	23%
Expected dividend yield	0.8%	0.8%	0.7%

The following table summarizes stock option activity under our share-based plans for the years ended December 31, 2020, 2019 and 2018:

	Options	Weighted-Average Exercise Price Per Share	Weighted-Average Remaining Contractual Term (Years)	Aggregate Intrinsic Value
Outstanding at the beginning of January 1, 2018	280	$ 3.76		
Granted	32	$ 6.59		
Exercised	(65)	$ 3.35		
Forfeited, cancelled or expired	(4)	$ 4.76		
Outstanding as of December 31, 2018	243	$ 4.22		
Awards granted in connection with acquisition	7	$ 3.85		
Granted	15	$ 6.10		
Exercised	(53)	$ 3.65		
Forfeited, cancelled or expired	(4)	$ 5.58		
Outstanding as of December 31, 2019	208	$ 4.46		
Granted	11	$ 6.87		
Exercised	(33)	$ 3.66		
Forfeited, cancelled or expired	(2)	$ 6.28		
Outstanding as of December 31, 2020	184	$ 4.73	4.80	$ 318
Exercisable as of December 31, 2020	147	$ 4.31	3.96	$ 309

The weighted average grant date fair value per stock option granted during the years ended December 31, 2020, 2019 and 2018 was $1.46, $1.26 and $1.45. The total intrinsic value of stock options exercised during the years ended December 31, 2020, 2019 and 2018 was $94, $146 and $215, respectively. During the years ended December 31, 2020, 2019 and 2018, the number of net settled shares issued as a result of stock option exercises were 8, 15 and 19, respectively.

In connection with the Pandora Acquisition, each option granted by Pandora under its stock incentive plans to purchase shares of Pandora common stock, whether vested or unvested, was assumed and converted into an option to purchase shares of our common stock, with appropriate adjustments (based on the 1.44 exchange ratio) to the exercise price and number of shares of our common stock subject to such option, and has the same vesting schedule and exercise conditions as in effect as of immediately prior to the closing of the Pandora Acquisition; provided, that any Pandora stock option that had an exercise price per share that was equal to or greater than the value, at the closing of the Pandora Acquisition, of our common stock issued as merger consideration in exchange for each share of Pandora common stock, was canceled without payment. We recorded $8 to Goodwill related to pre-acquisition replacement equity awards attributable to pre-combination service.

We recognized share-based payment expense associated with stock options of $45, $60 and $67 for the years ended December 31, 2020, 2019 and 2018, respectively.

The following table summarizes the restricted stock unit, including PRSU, activity under our share-based plans for the years ended December 31, 2020, 2019 and 2018:

	Shares	Grant Date Fair Value Per Share
Nonvested at the beginning of January 1, 2018	31	$ 4.54
Granted	18	$ 6.40
Vested	(13)	$ 4.43
Forfeited	(1)	$ 4.99
Nonvested as of December 31, 2018	35	$ 5.50
Awards granted in connection with acquisition	48	$ 5.83
Granted	38	$ 6.01
Vested	(38)	$ 5.53
Forfeited	(8)	$ 5.85
Nonvested as of December 31, 2019	75	$ 5.95
Granted	37	$ 6.14
Vested	(32)	$ 5.89
Forfeited	(5)	$ 6.00
Nonvested as of December 31, 2020	75	$ 6.06

The total intrinsic value of restricted stock units, including PRSUs, vesting during the years ended December 31, 2020, 2019 and 2018 was $196, $235 and $85, respectively. During the years ended December 31, 2020, 2019 and 2018, the number of net settled shares issued as a result of restricted stock units vesting totaled 20, 23 and 7, respectively. During the years ended December 31, 2020, 2019 and 2018, we granted 4, 6 and 5, respectively PRSUs to certain employees. We believe it is probable that the performance target applicable to these PRSUs will be achieved.

In connection with the Pandora Acquisition, each unvested restricted stock unit granted by Pandora under its stock incentive plans was assumed and converted into an unvested restricted stock unit of Holdings, with appropriate adjustments (based on the 1.44 exchange ratio) to the number of shares of our common stock to be received, and has the same vesting schedule and settlement date as in effect as of immediately prior to the closing of the Pandora Acquisition. We recorded $62 to Goodwill related to pre-acquisition replacement equity awards attributable to pre-combination service.

In connection with the cash dividends paid during the years ended December 31, 2020, 2019 and 2018, we granted 1 restricted stock units, including PRSUs, in accordance with the terms of existing award agreements. These grants did not result in any additional incremental share-based payment expense being recognized during the years ended December 31, 2020, 2019 and 2018.

We recognized share-based payment expense associated with restricted stock units, including PRSUs, of $178, $190 and $66 for the years ended December 31, 2020, 2019 and 2018, respectively.

Total unrecognized compensation costs related to unvested share-based payment awards for stock options and restricted stock units, including PRSUs, granted to employees, members of our board of directors and third parties at December 31, 2020 and December 31, 2019 was $385 and $415, respectively. The total unrecognized compensation costs at December 31, 2020 are expected to be recognized over a weighted-average period of 2.6 years.

401(k) Savings Plans

Sirius XM Radio Inc. 401(k) Savings Plan

Sirius XM sponsors the Sirius XM Radio Inc. 401(k) Savings Plan (the “Sirius XM Plan”) for eligible employees. The Sirius XM Plan allows eligible employees to voluntarily contribute from 1% to 50% of their pre-tax eligible earnings, subject to certain defined limits. We match 50% of an employee’s voluntary contributions per pay period on the first 6% of an employee’s pre-tax salary up to a maximum of 3% of eligible compensation. We may also make additional discretionary matching, true-up

matching and non-elective contributions to the Sirius XM Plan. Employer matching contributions under the Sirius XM Plan vest at a rate of 33.33% for each year of employment and are fully vested after three years of employment for all current and future contributions. Our cash employer matching contributions are not used to purchase shares of our common stock on the open market, unless the employee elects our common stock as their investment option for this contribution.

Pandora Media, LLC 401(k) Profit Sharing Plan and Trust

Pandora sponsors the Pandora Media, LLC 401(k) Profit Sharing Plan and Trust (the "Pandora Plan") for eligible employees. The Pandora Plan allows eligible employees to voluntarily contribute from 1% to 75% of their pre-tax eligible earnings, subject to certain defined limits. Effective January 1, 2020, we began matching 50% of an employee's voluntary contributions per pay period on the first 6% of an employee's pre-tax salary up to a maximum of 3% of eligible compensation.

We recognized expenses of $16, $9 and $9 for the years ended December 31, 2020, 2019 and 2018, respectively, in connection with the Sirius XM and Pandora Plans.

Sirius XM Holdings Inc. Deferred Compensation Plan

The Sirius XM Holdings Inc. Deferred Compensation Plan (the "DCP") allows members of our board of directors and certain eligible employees to defer all or a portion of their base salary, cash incentive compensation and/or board of directors' cash compensation, as applicable. Pursuant to the terms of the DCP, we may elect to make additional contributions beyond amounts deferred by participants, but we are under no obligation to do so. We have established a grantor (or "rabbi") trust to facilitate the payment of our obligations under the DCP.

Contributions to the DCP, net of withdrawals, for the years ended December 31, 2020, 2019 and 2018 were $8, $7 and $8, respectively. As of December 31, 2020 and 2019, the fair value of the investments held in the trust were $46 and $34, respectively, which is included in Other long-term assets in our consolidated balance sheets and classified as trading securities. Trading gains and losses associated with these investments are recorded in Other (expense) income within our consolidated statements of comprehensive income. The associated liability is recorded within Other long-term liabilities in our consolidated balance sheets, and any increase or decrease in the liability is recorded in General and administrative expense within our consolidated statements of comprehensive income. For both the years ended December 31, 2020 and 2019, we recorded gains on investments held in the trust of $3.

(17) Commitments and Contingencies

The following table summarizes our expected contractual cash commitments as of December 31, 2020:

	2021	2022	2023	2024	2025	Thereafter	Total
Debt obligations	$ 1	$ 1,000	$ 842	$ 1,500	$ —	$ 5,250	$ 8,593
Cash interest payments	389	387	341	329	259	788	2,493
Satellite and transmission	50	3	3	3	2	18	79
Programming and content	382	291	209	156	121	195	1,354
Sales and marketing	69	20	11	3	3	5	111
Satellite incentive payments	8	8	9	9	9	38	81
Operating lease obligations	69	68	61	47	45	137	427
Royalties, minimum guarantees and other	327	205	25	7	—	—	564
Total [1]	$ 1,295	$ 1,982	$ 1,501	$ 2,054	$ 439	$ 6,431	$ 13,702

(1) The table does not include our reserve for uncertain tax positions, which at December 31, 2020 totaled $30.

Debt obligations. Debt obligations include principal payments on outstanding debt and finance lease obligations.

Cash interest payments. Cash interest payments include interest due on outstanding debt and capital lease payments through maturity.

Satellite and transmission. We have entered into agreements with several third parties to design, build, launch and insure two satellites, SXM-7 and SXM-8. We also have entered into agreements with third parties to operate and maintain satellite telemetry, tracking and control facilities and certain components of our terrestrial repeater networks.

Programming and content. We have entered into various programming and content agreements. Under the terms of these agreements, our obligations include fixed payments, advertising commitments and revenue sharing arrangements. In certain of these agreements, the future revenue sharing costs are dependent upon many factors and are difficult to estimate; therefore, they are not included in our minimum contractual cash commitments.

Sales and marketing. We have entered into various marketing, sponsorship and distribution agreements to promote our brands and are obligated to make payments to sponsors, retailers, automakers, radio manufacturers and other third parties under these agreements. Certain programming and content agreements also require us to purchase advertising on properties owned or controlled by the licensors.

Satellite incentive payments. Boeing Satellite Systems International, Inc., the manufacturer of certain of our in-orbit satellites, may be entitled to future in-orbit performance payments upon XM-4 meeting its fifteen-year design life, which we expect to occur. Boeing may also be entitled to up to $10 of additional incentive payments if our XM-4 satellite continues to operate above baseline specifications during the five years beyond the satellite's fifteen-year design life.

Maxar Technologies (formerly Space Systems/Loral), the manufacturer of certain of our in-orbit satellites, may be entitled to future in-orbit performance payments upon XM-5, SIRIUS FM-5 and SIRIUS FM-6 meeting their fifteen-year design life, which we expect to occur.

Operating lease obligations. We have entered into both cancelable and non-cancelable operating leases for office space, terrestrial repeaters, data centers and equipment. These leases provide for minimum lease payments, additional operating expense charges, leasehold improvements and rent escalations that have initial terms ranging from one to fifteen years, and certain leases have options to renew. Total rent recognized in connection with leases for the years ended December 31, 2020, 2019 and 2018 was $73, $75 and $43, respectively.

Royalties, Minimum Guarantees and Other. We have entered into music royalty arrangements that include fixed payments. Certain of our content agreements also contain minimum guarantees and require that we make upfront minimum guaranteed payments. During the year ended December 31, 2020, we prepaid $5 in content costs related to minimum guarantees. As of December 31, 2020, we had future fixed minimum guarantee commitments of $26, of which $14 will be paid in 2021 and the remainder will be paid thereafter. On a quarterly basis, we record the greater of the cumulative actual content costs incurred or the cumulative minimum guarantee based on forecasted usage for the minimum guarantee period. The minimum guarantee period is the period of time that the minimum guarantee relates to, as specified in each agreement, which may be annual or a longer period. The cumulative minimum guarantee, based on forecasted usage, considers factors such as listening hours, revenue, subscribers and other terms of each agreement that impact our expected attainment or recoupment of the minimum guarantees based on the relative attribution method.

Several of our content agreements also include provisions related to the royalty payments and structures of those agreements relative to other content licensing arrangements, which, if triggered, could cause our payments under those agreements to escalate. In addition, record labels, publishers and performing rights organizations ("PROs") with whom we have entered into direct license agreements have the right to audit our content payments, and any such audit could result in disputes over whether we have paid the proper content costs.

We have also entered into various agreements with third parties for general operating purposes. The cost of our common stock acquired in our capital return program but not paid for as of December 31, 2020 was also included in this category.

In addition to the minimum contractual cash commitments described above, we have entered into other variable cost arrangements. These future costs are dependent upon many factors and are difficult to anticipate; however, these costs may be substantial. We may enter into additional programming, distribution, marketing and other agreements that contain similar variable cost provisions. We also have a surety bond of approximately $45 primarily used as security against non-performance in the normal course of business. We do not have any other significant off-balance sheet financing arrangements that are

reasonably likely to have a material effect on our financial condition, results of operations, liquidity, capital expenditures or capital resources.

Legal Proceedings

In the ordinary course of business, we are a defendant or party to various claims and lawsuits, including those discussed below.

We record a liability when we believe that it is both probable that a liability will be incurred, and the amount of loss can be reasonably estimated. We evaluate developments in legal matters that could affect the amount of liability that has been previously accrued and make adjustments as appropriate. Significant judgment is required to determine both probability and the estimated amount of a loss or potential loss. We may be unable to reasonably estimate the reasonably possible loss or range of loss for a particular legal contingency for various reasons, including, among others, because: (i) the damages sought are indeterminate; (ii) the proceedings are in the relative early stages; (iii) there is uncertainty as to the outcome of pending proceedings (including motions and appeals); (iv) there is uncertainty as to the likelihood of settlement and the outcome of any negotiations with respect thereto; (v) there remain significant factual issues to be determined or resolved; (vi) the relevant law is unsettled; or (vii) the proceedings involve novel or untested legal theories. In such instances, there may be considerable uncertainty regarding the ultimate resolution of such matters, including the likelihood or magnitude of a possible eventual loss, if any.

Pre-1972 Sound Recording Litigation. On October 2, 2014, Flo & Eddie Inc. filed a class action suit against Pandora in the federal district court for the Central District of California. The complaint alleges a violation of California Civil Code Section 980, unfair competition, misappropriation and conversion in connection with the public performance of sound recordings recorded prior to February 15, 1972 (which we refer to as, “pre-1972 recordings”). On December 19, 2014, Pandora filed a motion to strike the complaint pursuant to California’s Anti-Strategic Lawsuit Against Public Participation (“Anti-SLAPP”) statute, which following denial of Pandora’s motion was appealed to the Ninth Circuit Court of Appeals. In March 2017, the Ninth Circuit requested certification to the California Supreme Court on the substantive legal questions. The California Supreme Court accepted certification. In May 2019, the California Supreme Court issued an order dismissing consideration of the certified questions on the basis that, following the enactment of the Orrin G. Hatch-Bob Goodlatte Music Modernization Act, Pub. L. No. 115-264, 132 Stat. 3676 (2018) (the “MMA”), resolution of the questions posed by the Ninth Circuit Court of Appeals was no longer “necessary to . . . settle an important question of law.”

The MMA grants a potential federal preemption defense to the claims asserted in the aforementioned lawsuits. In July 2019, Pandora took steps to avail itself of this preemption defense, including making the required payments under the MMA for certain of its uses of pre-1972 recordings. Based on the federal preemption contained in the MMA (along with other considerations), Pandora asked the Ninth Circuit to order the dismissal of the *Flo & Eddie, Inc. v. Pandora Media, Inc.* case. On October 17, 2019, the Ninth Circuit Court of Appeals issued a memorandum disposition concluding that the question of whether the MMA preempts Flo and Eddie's claims challenging Pandora's performance of pre-1972 recordings “depends on various unanswered factual questions” and remanded the case to the District Court for further proceedings.

In October 2020, the District Court denied Pandora’s renewed motion to dismiss the case under California’s anti-SLAPP statute, finding the case no longer qualified for anti-SLAPP due to intervening changes in the law, and denied Pandora’s renewed attempt to end the case. Alternatively, the District Court ruled that the preemption defense likely did not apply to Flo & Eddie’s claims, in part because the District Court believed that the Music Modernization Act did not apply retroactively. Pandora promptly appealed the District Court’s decision to the Ninth Circuit, and moved to stay appellate briefing pending the appeal of a related case against Sirius XM. On January 13, 2021, the Ninth Circuit issued an order granting the stay of appellate proceedings pending the resolution of a related case against Sirius XM.

We believe we have substantial defenses to the claims asserted in this action, and we intend to defend these actions vigorously.

Copyright Royalty Board Proceeding to Determine the Rate for Statutory Webcasting. Pursuant to Sections 112 and 114 of the Copyright Act, the Copyright Royalties Board (the "CRB") initiated a proceeding in January 2019 to set the rates and terms by which webcasters may perform sound recordings via digital transmission over the internet and make ephemeral reproductions of those recordings during the 2021-2025 rate period under the authority of statutory licenses provided under

Sections 112 and 114 of the Copyright Act. We filed a petition to participate in the proceeding on behalf of our Sirius XM and Pandora businesses, as did other webcasters including Google Inc. and the National Association of Broadcasters. SoundExchange, a collective organization that collects and distributes digital performance royalties to artists and copyright holders, represents the various copyright owner participants in the proceeding, including Sony Music Entertainment, Universal Music Group and Warner Music Group. Because the proceeding focuses on setting statutory rates for non-interactive online music streaming (commonly identified as "webcasting"), the proceeding will set the rates that our Pandora business pays for music streaming on its free, ad-supported tier and that our Sirius XM business pays for streaming on its subscription internet radio service. This proceeding will not set the rates that we pay for our other music offerings (satellite radio, business establishment services) or that we pay for interactive streaming on our Pandora Plus and Pandora Premium services.

In light of the COVID-19 pandemic, the multi-week hearing before the Copyright Royalty Judges originally scheduled to begin in Washington, DC in March 2020, was postponed and conducted virtually via videoconference between August 4 and September 9, 2020. Subsequent to the hearing, the parties submitted post-trial briefing and reply briefing. Closing arguments were held in November 2020. The final rates proposed for the 2021-2025 period by Sirius XM, Pandora, and the other webcaster participants are below the existing statutory rates. Specifically, Sirius XM and Pandora proposed rates of $0.0011 per performance for nonsubscription commercial webcasters and $0.0016 per performance for subscription commercial webcasters. SoundExchange proposed increasing the existing statutory rates to $0.0028 per performance for nonsubscription commercial webcasters and $0.0031 per performance for commercial subscription webcasters. Given the delay in the proceeding, the deadline for the CRB to deliver its initial rate determination has been extended to April 15, 2021.

Other Matters. In the ordinary course of business, we are a defendant in various other lawsuits and arbitration proceedings, including derivative actions; actions filed by subscribers, both on behalf of themselves and on a class action basis; former employees; parties to contracts or leases; and owners of patents, trademarks, copyrights or other intellectual property. None of these other matters, in our opinion, is likely to have a material adverse effect on our business, financial condition or results of operations.

(18) Income Taxes

There is no current U.S. federal income tax provision, as all federal taxable income was offset by utilizing U.S. federal net operating loss carryforwards. The current state income tax provision is primarily related to taxable income in certain states that have suspended or limited the ability to use net operating loss carryforwards or where net operating losses have been fully utilized. Income tax expense is the sum of current income tax plus the change in deferred tax assets and liabilities.

We file a consolidated federal income tax return for all of our wholly owned subsidiaries, including Sirius XM and Pandora. Income tax expense consisted of the following:

	For the Years Ended December 31,		
	2020	2019	2018
Current taxes:			
Federal	$ —	$ —	$ —
State	(61)	(24)	12
Total current taxes	(61)	(24)	12
Deferred taxes:			
Federal	(219)	(229)	(259)
State	(19)	(30)	2
Total deferred taxes	(238)	(259)	(257)
Total income tax expense	$ (299)	$ (283)	$ (245)

The following table presents a reconciliation of the U.S. federal statutory tax rate and our effective tax rate:

	For the Years Ended December 31,		
	2020	2019	2018
Federal tax expense, at statutory rate	21.0 %	21.0 %	21.0 %
State income tax expense, net of federal benefit	4.2 %	3.9 %	3.6 %
Change in valuation allowance	0.7 %	0.3 %	1.0 %
Tax credits	(10.2)%	(2.7)%	(6.8)%
Share-based compensation	(3.5)%	(2.4)%	(3.1)%
Impact of nondeductible compensation	2.6 %	1.6 %	0.7 %
Automatic worthless stock deduction	(3.5)%	— %	— %
Goodwill impairment	53.7 %	— %	— %
Uncertain tax positions	4.4 %	— %	— %
Other, net	0.1 %	1.9 %	0.8 %
Effective tax rate	69.5 %	23.6 %	17.2 %

Our effective tax rate of 69.5% for the year ended December 31, 2020 was primarily impacted by the nondeductible Pandora goodwill impairment charge, partially offset by the recognition of excess tax benefits related to share-based compensation, a benefit related to state and federal research and development and certain other credits and a worthless stock deduction associated with the termination of the Automatic service. Our effective tax rate of 23.6% for the year ended December 31, 2019 was primarily impacted by the recognition of excess tax benefits related to share-based compensation and benefits related to state and federal research and development and certain other credits, partially offset by the impact of nondeductible compensation. Our effective tax rate of 17.2% for the year ended December 31, 2018 was primarily impacted by the recognition of excess tax benefits related to share-based compensation and a benefit related to state and federal research and development credits.

Deferred income taxes are recognized for the tax consequences related to temporary differences between the carrying amount of assets and liabilities for financial reporting purposes and the amounts used for tax purposes at each year-end, based on enacted tax laws and statutory tax rates applicable to the periods in which the differences are expected to affect taxable

income. The ultimate realization of deferred tax assets is dependent upon the generation of future taxable income during the periods in which those temporary differences can be carried forward under tax law. Our evaluation of the realizability of deferred tax assets considers both positive and negative evidence, including historical financial performance, scheduled reversal of deferred tax assets and liabilities, projected taxable income and tax planning strategies. The weight given to the potential effects of positive and negative evidence is based on the extent to which it can be objectively verified. A valuation allowance is recognized when, based on the weight of all available evidence, it is considered more likely than not that all, or some portion, of the deferred tax assets will not be realized.

The tax effects of temporary differences that give rise to significant portions of the deferred tax assets and deferred tax liabilities, shown before jurisdictional netting, are presented below:

	For the Years Ended December 31,	
	2020	2019
Deferred tax assets:		
Net operating loss carryforwards and tax credits	$ 745	$ 1,010
Deferred revenue	62	81
Accrued bonus	29	34
Expensed costs capitalized for tax	11	14
Investments	21	22
Stock based compensation	74	72
Operating lease liability	118	126
Total deferred tax assets	1,060	1,359
Deferred tax liabilities:		
Depreciation of property and equipment	(237)	(228)
FCC license	(521)	(519)
Other intangible assets	(292)	(340)
Right of use asset	(106)	(116)
Other	(5)	(3)
Total deferred tax liabilities	(1,161)	(1,206)
Net deferred tax assets before valuation allowance	(101)	153
Valuation allowance	(54)	(70)
Total net deferred tax (liability) asset	$ (155)	$ 83

Net operating loss carryforwards and tax credits decreased as a result of the utilization of net operating losses related to current year taxable income. For the years ended December 31, 2020 and 2019, we recorded $44 and $33 for state and federal tax credits, respectively. As of December 31, 2020, our gross federal net operating loss carryforwards were approximately $1,354. We expect to utilize a majority of our federal income tax credits, which consist of research and development tax credits, refined coal credits and foreign tax credits, by December 31, 2022.

As of December 31, 2020 and 2019, we had a valuation allowance related to deferred tax assets of $54 and $70, respectively, which were not likely to be realized due to the timing of certain federal and state net operating loss limitations. During the year ended December 31, 2020, our allowance decreased primarily due to the expiration of unused federal research and development credit carryforwards.

ASC 740, *Income Taxes*, requires a company to first determine whether it is more likely than not that a tax position will be sustained based on its technical merits as of the reporting date, assuming that taxing authorities will examine the position and have full knowledge of all relevant information. A tax position that meets this more likely than not threshold is then measured and recognized at the largest amount of benefit that is greater than fifty percent likely to be realized upon effective settlement with a taxing authority. If the tax position is not more likely than not to be sustained, the gross amount of the unrecognized tax position will not be recorded in the financial statements but will be shown in tabular format within the uncertain income tax positions. Changes in recognition or measurement are reflected in the period in which the change in judgment occurs due to the

following conditions: (1) the tax position is “more likely than not” to be sustained, (2) the tax position, amount, and/or timing is ultimately settled through negotiation or litigation, or (3) the statute of limitations for the tax position has expired. A number of years may elapse before an uncertain tax position is effectively settled or until there is a lapse in the applicable statute of limitations. We record interest and penalties related to uncertain tax positions in Income tax expense in our consolidated statements of comprehensive income.

As of December 31, 2020 and 2019, we had unrecognized tax benefits and uncertain tax positions of $433 and $406, respectively. If recognized, $310 of unrecognized tax benefits would affect our effective tax rate. Uncertain tax positions are recognized in Other long-term liabilities which, as of December 31, 2020 and 2019, were $30 and $12, respectively, including accrued interest.

We have state income tax audits pending. We do not expect the ultimate outcome of these audits to have a material adverse effect on our financial position or results of operations. We also do not currently anticipate that our existing reserves related to uncertain tax positions as of December 31, 2020 will significantly increase or decrease during the year ending December 31, 2021. Various events could cause our current expectations to change. Should our position with respect to the majority of these uncertain tax positions be upheld, the effect would be recorded in our consolidated statements of comprehensive income as part of the income tax provision. We recorded interest expense of $6 and $2 for the years ended December 31, 2020 and 2019, respectively, related to unrecognized tax benefits.

Changes in our unrecognized tax benefits and uncertain tax positions from January 1 through December 31 are set forth below:

	2020	2019
Balance, beginning of year	$ 406	$ 387
Increases in tax positions for prior years	14	—
Increases in tax positions for current year	20	31
Decreases in tax positions for prior years	(7)	(12)
Balance, end of year	$ 433	$ 406

(19) Segments and Geographic Information

In accordance with FASB ASC Topic 280, *Segment Reporting*, we disaggregate our operations into two reportable segments: Sirius XM and Pandora. The financial results of these segments are utilized by the chief operating decision maker, who is our Chief Executive Officer, for evaluating segment performance and allocating resources. We report our segment information based on the "management" approach. The management approach designates the internal reporting used by management for making decisions and assessing performance as the source of our reportable segments. For additional information on our segments refer to Note 1.

Segment results include the revenues and cost of services which are directly attributable to each segment. There are no indirect revenues or costs incurred that are allocated to the segments. There are planned intersegment advertising campaigns which will be eliminated. We had less than $1 of intersegment advertising revenue during the years ended December 31, 2020 and 2019.

SIRIUS XM HOLDINGS INC. AND SUBSIDIARIES
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS - Continued
(Dollars and shares in millions, except per share amounts)

Segment revenue and gross profit were as follows during the periods presented:

	For the Year Ended December 31, 2020		
	Sirius XM	Pandora	Total
Revenue			
Subscriber revenue	$ 5,857	$ 515	$ 6,372
Advertising revenue	157	1,183	1,340
Equipment revenue	173	—	173
Other revenue	155	—	155
Total revenue	6,342	1,698	8,040
Cost of services [(a)]	(2,430)	(1,105)	(3,535)
Segment gross profit	$ 3,912	$ 593	$ 4,505

The reconciliation between reportable segment gross profit to consolidated income before income tax is as follows:

	For the Year Ended December 31, 2020
Segment Gross Profit	$ 4,505
Subscriber acquisition costs	(362)
Sales and marketing [(a)]	(889)
Engineering, design and development [(a)]	(220)
General and administrative [(a)]	(443)
Depreciation and amortization	(506)
Share-based payment expense	(223)
Acquisition and restructuring costs	(28)
Impairment charges	(976)
Total other (expense) income	(428)
Consolidated income before income taxes	$ 430

(a) Share-based payment expense of $44 related to cost of services, $68 related to sales and marketing, $43 related to engineering, design and development and $68 related to general and administrative has been excluded for the year ended December 31, 2020.

	For the Year Ended December 31, 2019		
	Sirius XM	Pandora	Total
Revenue			
Subscriber revenue	$ 5,644	$ 476	$ 6,120
Advertising revenue	205	1,131	1,336
Equipment revenue	173	—	173
Other revenue	165	—	165
Total revenue	6,187	1,607	7,794
Cost of services [(b)]	(2,378)	(1,005)	(3,383)
Segment gross profit	$ 3,809	$ 602	$ 4,411

The reconciliation between reportable segment gross profit to consolidated income before income tax is as follows:

	For the Year Ended December 31, 2019
Segment Gross Profit	$ 4,411
Subscriber acquisition costs	(427)
Sales and marketing [(b)]	(859)
Engineering, design and development [(b)]	(231)
General and administrative [(b)]	(466)
Depreciation and amortization	(468)
Share-based payment expense	(229)
Acquisition and other related costs	(84)
Total other (expense) income	(450)
Consolidated income before income taxes	$ 1,197

(b) Share-based payment expense of $44 related to cost of services, $78 related to sales and marketing, $49 related to engineering, design and development and $58 related to general and administrative has been excluded for the year ended December 31, 2019.

A measure of segment assets is not currently provided to the Chief Executive Officer and has therefore not been provided.

As of December 31, 2020, long-lived assets were predominantly located in the United States. No individual foreign country represented a material portion of our consolidated revenue during the year ended December 31, 2020.

(20) Subsequent Events

Capital Return Program

For the period from January 1, 2021 to January 29, 2021 we repurchased 33 shares of our common stock on the open market for an aggregate purchase price of $203, including fees and commissions.

On January 28, 2021, our board of directors declared a quarterly dividend on our common stock in the amount of $0.014641 per share of common stock payable on February 26, 2021 to stockholders of record as of the close of business on February 10, 2021.

Tax Sharing Agreement

On February 1, 2021, Holdings entered into a tax sharing agreement with Liberty Media governing the allocation of consolidated U.S. income tax liabilities and setting forth agreements with respect to other tax matters. The tax sharing agreement was negotiated and approved by a special committee of Holdings' board of directors, all of whom are independent of Liberty Media.

Under the Internal Revenue Code, two corporations may form a consolidated tax group, and file a consolidated federal income tax return, if one corporation owns stock representing at least 80% of the voting power and value of the outstanding capital stock of the other corporation. As of December 31, 2020, Liberty Media beneficially owned, directly and indirectly, approximately 76% of the outstanding shares of our common stock. We expect that Liberty Media could beneficially own, directly and indirectly, over 80% of the outstanding shares of our common stock at some time in 2021, and Holdings and Liberty Media would then become members of the same consolidated tax group. Should that happen, the tax sharing agreement would govern certain matters related to the resulting consolidated federal income tax returns, as well as state and local returns filed on a consolidated or combined basis.

The tax sharing agreement contains provisions that Holdings believes are customary for tax sharing agreements between members of a consolidated group.

SXM-7 Satellite

We have entered into agreements for the design, construction and launch of two additional satellites, SXM-7 and SXM-8. On December 13, 2020, SXM-7 was successfully launched. In-orbit testing of SXM-7 began on January 4, 2021.

During in-orbit testing of SXM-7, events occurred which have caused failures of certain SXM-7 payload units. An evaluation of SXM-7 is underway. The full extent of the damage to SXM-7 is not yet known.

We do not expect our satellite radio service to be impacted by these adverse SXM-7 events. Our XM-3 and XM-4 satellites continue to operate and are expected to support our satellite radio service for several years. In addition, our XM-5 satellite remains available as an in-orbit spare. Construction of our SXM-8 satellite is underway and that satellite is expected to be launched into a geostationary orbit in 2021.

We have procured insurance for SXM-7 and SXM-8 to cover the risks associated with each satellite's launch and first year of in-orbit operation. The aggregate coverage under those insurance policies with respect to SXM-7 is $225. We have notified the underwriters of these policies of a potential claim with respect to SXM-7. As of December 31, 2020, we have $220 capitalized in construction in progress related to SXM-7.

(21) Quarterly Financial Data--Unaudited

Our quarterly results of operations are summarized below:

	For the Three Months Ended			
	March 31	June 30	September 30	December 31
2020				
Total revenue	$ 1,952	$ 1,874	$ 2,025	$ 2,189
Cost of services	$ (850)	$ (866)	$ (895)	$ (968)
Income from operations	$ 468	$ 415	$ 478	$ (503)
Net income	$ 293	$ 243	$ 272	$ (677)
Net income per common share--basic [1]	$ 0.07	$ 0.06	$ 0.06	$ (0.16)
Net income per common share--diluted [1]	$ 0.07	$ 0.05	$ 0.06	$ (0.16)
2019				
Total revenue	$ 1,744	$ 1,977	$ 2,011	$ 2,062
Cost of services	$ (748)	$ (882)	$ (881)	$ (916)
Income from operations	$ 333	$ 439	$ 476	$ 399
Net income	$ 162	$ 263	$ 246	$ 243
Net income per common share--basic [1]	$ 0.04	$ 0.06	$ 0.06	$ 0.05
Net income per common share--diluted [1]	$ 0.03	$ 0.06	$ 0.05	$ 0.05

(1) Basic and Diluted earnings per share are computed quarterly and the sum of the quarterly calculation may not necessarily agree to the net income per share for the year due to rounding.

SIRIUS XM HOLDINGS INC. AND SUBSIDIARIES
Schedule II - Schedule of Valuation and Qualifying Accounts

(in millions)

Description	Balance January 1,	Charged to Expenses	Write-offs/ Payments/ Other	Balance December 31,
2020				
Allowance for doubtful accounts	$ 14	60	(59)	$ 15
Deferred tax assets—valuation allowance	$ 70	3	(19)	$ 54
2019				
Allowance for doubtful accounts	$ 7	53	(46)	$ 14
Deferred tax assets—valuation allowance	$ 66	4	—	$ 70
2018				
Allowance for doubtful accounts	$ 10	51	(54)	$ 7
Deferred tax assets—valuation allowance	$ 53	13	—	$ 66

AGREEMENT AND RELEASE

This Agreement and Release, dated as of September 21, 2020 (this "Agreement"), is entered into by and between DAVID J. FREAR (the "Executive") and SIRIUS XM RADIO INC. (the "Company").

The purpose of this Agreement is to completely and finally settle, resolve, and forever extinguish all obligations, disputes and differences arising out of the Executive's employment with and separation from the Company.

NOW, THEREFORE, in consideration of the mutual promises and covenants contained in this Agreement, the Executive and the Company hereby agree as follows:

1. The Executive's employment with the Company was terminated as of September 14, 2020 (the "Termination Date").

2. The Company and the Executive agree that the Executive shall be provided severance pay and other benefits, less all legally required and authorized deductions, in accordance with the terms of Section 6(f)(ii) of the Employment Agreement between the Executive and the Company, dated as of June 1, 2018 (the "Employment Agreement"); provided that no such severance benefits shall be paid or provided if the Executive revokes this Agreement pursuant to Section 4 below, except for the Accrued Payments and Benefits. In addition, the Company will pay the Executive a pro-rated bonus for the year ending December 31, 2020 (the amount of which shall be based on actual achievement of applicable performance criteria by the Company, and based on the number of days the Executive was employed by the Company during 2020), payable in 2021 when annual bonuses are normally paid to other executive officers of the Company. The severance pay and other benefits, excluding all legally required and authorized deductions, payable in accordance with the terms of Section 6(f)(ii) of the Employment Agreement is set forth on Exhibit A to this Agreement. The Executive acknowledges and agrees that he is entering into this Agreement in consideration of such severance benefits and the Company's agreements set forth herein. All vacation pay earned and unused as of the Termination Date will be paid to the Executive within thirty (30) days following the Termination Date to the extent required by law. Except as set forth above, the Executive will not be eligible for any other compensation or benefits following the Termination Date, other than the rights, if any, granted to the Executive under the terms of the stock option, restricted stock, and performance-based restricted stock award agreements described in Section 14 of this Agreement.

3. The Executive, for himself, and for his heirs, attorneys, agents, spouse and assigns, hereby waives, releases and forever discharges Sirius XM Holdings Inc. ("Holdings"), the Company and their respective parents, subsidiaries, and affiliated companies and its and their predecessors, successors, and assigns, if any, as well as all of their respective officers, directors and employees, stockholders, agents, servants, representatives, and attorneys, and the predecessors, successors, heirs and assigns of each of them (collectively "Released Parties"), from any and all grievances, claims, demands, causes of action, obligations, damages and/or liabilities of any nature whatsoever, whether known or unknown, suspected or claimed, which the Executive ever had, now has, or claims to have against the Released Parties, by reason of any

act or omission occurring before the Executive's execution of this Agreement, including, without limiting the generality of the foregoing, (a) any act, cause, matter or thing stated, claimed or alleged, or which was or which could have been alleged in any manner against the Released Parties prior to the execution of this Agreement and (b) all claims for any payment under the Employment Agreement, and (c) all claims for discrimination, harassment, hostile work environment and/or retaliation, under Title VII of the Civil Rights Act of 1964, as amended, the Civil Rights Act of 1991, as amended, the New York State Human Rights Law, as amended, the Age Discrimination in Employment Act ("ADEA") and the Older Workers Benefit Protection Act ("OWBPA"), and the Americans with Disabilities Act of 1990, as well as any and all claims, demands, causes of action, charges, obligations and liabilities arising out of any alleged contract of employment, whether written, oral, express or implied, or any other federal, state or local civil or human rights or labor law, ordinances, rules, regulations, guidelines, statutes, common law, contract or tort law, arising out of or relating to the Executive's employment with and/or separation from the Company, including but not limited to the termination of his employment on the Termination Date, and/or any events occurring prior to the execution of this Agreement; provided that nothing contained in this Agreement shall affect the Executive's rights (i) to indemnification from the Company as provided in the Employment Agreement or otherwise; (ii) to coverage under the Company's directors and officers liability insurance policies; (iii) to vested benefits which by their express terms entitle the Executive to benefits beyond the Executive's separation from employment (including, without limitation, the Executive's rights under Section 6(f) of the Employment Agreement); and (iv) under this Agreement.

4. Pursuant to the OWBPA, the Executive understands and specifically acknowledges that by executing this Agreement he is waiving all rights or claims that he has or may have under ADEA (which includes, but is not limited to, any claim that any Released Party discriminated against the Executive on account of the Executive's age), including, without limitation, those arising out of or relating to the Executive's employment with and/or separation from the Company, the termination of his employment on the Termination Date, and/or any events occurring prior to the execution of this Agreement. In accordance with the ADEA, the Company specifically hereby advises the Executive that: (1) he may and should consult an attorney before signing this Agreement, (2) he has twenty-one (21) days following receipt of this Agreement on September 14, 2020 to consider this Agreement, and (3) he has seven (7) days after signing this Agreement to revoke this Agreement.

5. Notwithstanding the above, nothing in this Agreement prevents or precludes the Executive from (a) challenging or seeking a determination of the validity of this Agreement under the ADEA; or (b) filing an administrative charge of discrimination under any applicable statute or participating in any investigation or proceeding conducted by a governmental agency. Section 7(c) of the Employment Agreement is hereby incorporated by reference in its entirety.

6. The Executive acknowledges that he may hereafter discover claims or facts in addition to or different from those which he now knows or believes to exist with respect to the subject matter of this Agreement which, if known or suspected at the time the Executive executes this Agreement, may have materially affected this Agreement and the Executive's

decision to enter into it. Nevertheless, except to the extent expressly not waived as part of this Agreement, the Executive hereby waives any right, claim or cause of action that might arise as a result of such different or additional claims or facts.

7. This release does not affect or impair the Executive's rights with respect to workman's compensation or similar claims under applicable law or any claims under medical, dental, disability, life or other insurance arising prior to the date hereof.

8. The Executive warrants that he has not made any assignment, transfer, conveyance or alienation of any potential claim, cause of action, or any right of any kind whatsoever, including but not limited to, potential claims and remedies for discrimination, harassment, retaliation, or wrongful termination, and that no other person or entity of any kind has had, or now has, any financial or other interest in any of the demands, obligations, causes of action, debts, liabilities, rights, contracts, damages, costs, expenses, losses or claims which could have been asserted by the Executive against the Company or any other Released Party.

9. The Executive shall not make any disparaging remarks about any of Holdings, the Company, Liberty Media Corporation or any of their directors, officers, agents or employees (collectively, the "Nondisparagement Group") and/or any of their respective practices or products; provided that the Executive may provide truthful and accurate facts and opinions about any member of the Nondisparagement Group where required to do so by law and may respond to disparaging remarks about the Executive made by any member of the Nondisparagement Group. The Company and Holdings shall not, and they shall instruct their officers not to, make any disparaging remarks about the Executive; provided that any member of the Nondisparagement Group may provide truthful and accurate facts and opinions about the Executive where required to do so by law and may respond to disparaging remarks made by the Executive or the Executive's agents or family members.

10. The parties expressly agree that this Agreement shall not be construed as an admission by any of the parties of any violation, liability or wrongdoing, and shall not be admissible in any proceeding as evidence of or an admission by any party of any violation or wrongdoing. The Company expressly denies any violation of any federal, state, or local statute, ordinance, rule, regulation, order, common law or other law in connection with the employment and termination of employment of the Executive.

11. In the event of a dispute concerning the enforcement of this Agreement, the finder of fact shall have the discretion to award the prevailing party reasonable costs and attorneys' fees incurred in bringing or defending an action, and shall award such costs and fees to the Executive in the event the Executive prevails on the merits of any action brought hereunder. All other requests for relief or damages awards shall be governed by Sections 20(a) and 20(b) of the Employment Agreement.

12. The parties declare and represent that no promise, inducement, or agreement not expressed herein has been made to them.

13. This Agreement in all respects shall be interpreted, enforced and governed under the laws of the State of New York and any applicable federal laws relating to the subject matter of this Agreement. The language of all parts of this Agreement shall in all cases be construed as a whole, according to its fair meaning, and not strictly for or against any of the parties. This Agreement shall be construed as if jointly prepared by the Executive and the Company. Any uncertainty or ambiguity shall not be interpreted against any one party.

14. This Agreement, the Employment Agreement, the Stock Option Agreement, dated July 2, 2015, between the Executive and Holdings, the Stock Option Agreement, dated June 1, 2018, between the Executive and Holdings, the Restricted Stock Unit Agreement, dated June 1, 2018, between the Executive and Holdings and the Performance-Based Restricted Stock Unit Agreement, dated June 1, 2018, between the Executive and Holdings contain the entire agreement of the parties as to the subject matter hereof. No modification or waiver of any of the provisions of this Agreement shall be valid and enforceable unless such modification or waiver is in writing and signed by the party to be charged, and unless otherwise stated therein, no such modification or waiver shall constitute a modification or waiver of any other provision of this Agreement (whether or not similar) or constitute a continuing waiver.

15. The Executive and the Company represent that they have been afforded a reasonable period of time within which to consider the terms of this Agreement (including but not limited to the foregoing release), that they have read this Agreement, and they are fully aware of its legal effects. The Executive and the Company further represent and warrant that they enter into this Agreement knowingly and voluntarily, without any mistake, duress, coercion or undue influence, and that they have been provided the opportunity to review this Agreement with counsel of their own choosing. In making this Agreement, each party relies upon his or its own judgment, belief and knowledge, and has not been influenced in any way by any representations or statements not set forth herein regarding the contents hereof by the entities who are hereby released, or by anyone representing them.

16. This Agreement may be executed in counterparts, all of which shall be considered one and the same agreement, and shall become effective when one or more counterparts have been signed by each of the parties and delivered to the other parties. The parties further agree that delivery of an executed counterpart by facsimile shall be as effective as delivery of an originally executed counterpart. This Agreement shall be of no force or effect until executed by all the signatories.

17. The Executive warrants that he will return to the Company all software, computers, computer-related equipment, keys and all materials (including, without limitation, copies) obtained or created by the Executive in the course of his employment with the Company on or before the Termination Date; provided that the Executive will be able to keep his cell phones, personal computers, personal contact list and the like so long as any confidential information is removed from such items.

18. Any existing obligations the Executive has with respect to confidentiality, nonsolicitation of clients, nonsolicitation of employees and noncompetition, in each case with the

Company or its affiliates, shall remain in full force and effect, including, but not limited to, Sections 7 and 8 of the Employment Agreement.

19. Any disputes arising from or relating to this Agreement shall be subject to arbitration pursuant to Section 20 of the Employment Agreement.

20. Should any provision of this Agreement be declared or be determined by a forum with competent jurisdiction to be illegal or invalid, the validity of the remaining parts, terms or provisions shall not be affected thereby and said illegal or invalid part, term, or provision shall be deemed not to be a part of this Agreement.

IN WITNESS WHEREOF, the parties hereto have executed this Agreement as of the respective dates set forth below.

SIRIUS XM RADIO INC.

Dated: September 21, 2020

By: /s/ Patrick Donnelly
Patrick Donnelly
Executive Vice President, General Counsel and Secretary

Dated: September 21, 2020

/s/ David J. Frear
David J. Frear

COEX-
8.32

Exhibit A

Benefits under Section 6(f)(ii) of the Employment Agreement

- Any earned but unpaid Base Salary and any business expenses incurred but not reimbursed, in each case, prior to the Termination Date, which amount was paid on Friday, September 18, 2020 as part of the Company's regular payroll
- Vested benefits under other benefit or incentive plans or programs in accordance with the terms of such plans and programs
- $4,150,000, representing a lump sum amount equal to the sum of (x) the Executive's annualized Base Salary then in effect ($1,400,000) and (y) an amount in cash equal to the Bonus last paid ($2,750,000)
- The continuation for eighteen (18) months, at the Company's expense (by direct payment, not reimbursement to the Executive), of medical and dental benefits in a manner that will not be taxable to the Executive
- Life insurance benefits on the same terms as provided by the Company for active employees for one (1) year following the Termination Date; provided that (I) the Company's cost for such life insurance shall not exceed twice the amount that the Company would have paid to provide such life insurance benefit to the Executive if he were an active employee on the Termination Date, and (II) such life insurance coverage shall cease if the Executive obtains a life insurance benefit from another employer during the remainder of such one (1)-year period.

CONSULTING AGREEMENT

This Consulting Agreement (this "Agreement") by and between James E. Meyer ("Consultant") and Sirius XM Radio Inc. (the "Company") (collectively referred to as the "Parties"), is effective as of January 1, 2021 (the "Effective Date").

RECITALS

WHEREAS, prior to the Effective Date, Consultant was employed by the Company as its Chief Executive Officer pursuant to the Employment Agreement between the Parties, dated as of October 10, 2019 (the "Employment Agreement"); and

WHEREAS, the Company wishes to retain Consultant to perform consulting services and fulfill certain related duties and obligations under the terms and conditions of this Agreement;

NOW THEREFORE, for and in consideration of the mutual promises and covenants set forth herein, the Parties hereby agree as follows:

1. Consulting Services. (a) During the term of this Agreement, Consultant will render consulting services related to his specialized areas of knowledge, experience and expertise (including, but not limited to, assisting with the transition of the executive officer of the Company and Sirius XM Holdings Inc. ("Holdings"), meeting with Company clients and customers, and such other services as may be reasonably requested by the Chairman of the Board of Directors of Holdings or the Chief Executive Officer of the Company or Holdings from time to time). Consultant will have no authority to bind the Company, Holdings or any of their subsidiaries or affiliates, nor to act on their behalf, nor to make decisions for the Company, Holdings or any of their subsidiaries or affiliates. The Company, being ultimately interested only in the results of Consultant's performance of the services set forth in this Agreement, will give only broad direction to Consultant. Consultant will determine the method, details and means of performing the services contemplated by this Agreement. Notwithstanding the foregoing, the level of bona fide services Consultant performs for the Company hereunder will not exceed 20% of the average level of bona fide services Consultant performed during the 36-month period preceding the Effective Date.

(b) This Agreement will commence on the Effective Date and will continue until, and will end upon, the three (3)-year anniversary of the Effective Date.

(c) In consideration of Consultant's agreement to perform and his performance of the consulting services, during the term of this Agreement, the Company will pay Consultant $3,200,000 per year, payable in accordance with the Company's regular payroll practices (but in no event less frequently than monthly). During the term of this Agreement, Consultant and his dependents will be eligible to participate in the Company's medical, dental and life insurance plans, subject to the terms and conditions of such plans; provided that, in the event the Company determines that Consultant and his dependents may not participate in the Company's applicable

medical and dental plan(s), (i) the Company will pay to Consultant a lump sum cash amount, on the sixtieth (60th) day following such determination, equal to the costs of continuation of medical and dental insurance coverage for Consultant and his dependents under the Company's medical and dental insurance plan(s) in effect on the date of such determination from the date of such determination through the eighteen (18)-month anniversary of the Effective Date (less any amounts payable by the Company under the Employment Agreement in respect of medical and/or dental insurance coverage during any portion of such period) and (ii) thereafter Consultant will have the option to continue such benefits pursuant to the Consolidated Omnibus Budget Reconciliation Act of 1985 ("COBRA"), to the extent permitted by law and the terms and conditions of the applicable plan(s), through the three (3)-year anniversary of the Effective Date, at the Company's expense. In the event that, during the three (3)-year period following the Effective Date, Consultant and his dependents are not eligible to participate in the Company's medical, dental or life insurance plan(s), and also not eligible for such coverage under COBRA, the Company will pay Consultant a monthly amount equal to the actual monthly costs to Consultant to obtain medical, dental and/or life insurance benefits substantially similar to those benefits that would have been provided to Consultant and his dependents under the Company's plans through the third (3rd) anniversary of the Effective Date (less any amounts payable by the Company under the Employment Agreement in respect of medical, dental and/or life insurance coverage during any portion of such period); provided that (1) the amount of such monthly payments will not exceed twice the amount that the Company would have paid to provide such benefit to Consultant and his dependents if he were an active employee on the Effective Date, (2) such payments will cease if Consultant obtains such benefit from another employer following the eighteen (18)-month anniversary of the Effective Date, and (3) any such payments will be reduced by the amount of any lump sum payment made in accordance with this Section 1(c).

(d) Upon reasonable documentation of expenses from Consultant, the Company will reimburse Consultant in accordance with the Company's expense reimbursement policies for all reasonable business expenses incurred by Consultant in the performance of Consultant's services under this Agreement. Notwithstanding the foregoing, any expense in excess of $10,000 to be incurred by Consultant in connection with this Agreement will require the prior written approval of the Company.

(e) Consultant hereby assigns exclusively to the Company the ownership of all work product prepared or provided by Consultant to the Company or otherwise generated as a result of Consultant's provision of consulting services hereunder, along with all intellectual property rights (including, without limitation, all copyrights) related thereto.

(f) The Company acknowledges that Consultant's services hereunder will be provided by Consultant on a nonexclusive basis, and that Consultant may engage in any other business activities as long as such activities (i) do not interfere with or harm the operations of the Company, Holdings or any of their subsidiaries or affiliates; (ii) do not materially interfere with Consultant's obligations to the Company under this Agreement; and (iii) are consistent with the Consultant's continuing obligations to the Company and Holdings which, under the Employment Agreement, survive his termination of employment.

2. Prior Agreement Restrictive Covenants. Consultant warrants and represents that he has complied, and by this Agreement agrees that he will continue to comply, with all applicable terms of the Employment Agreement. The Parties agree and acknowledge that this Agreement supplements the Employment Agreement to the extent set forth herein and that in all other respects the applicable terms of the Employment Agreement remain in full force and effect. Consultant acknowledges and agrees that the restrictive covenant provisions set forth in the Employment Agreement remain in full force and effect to the fullest extent provided therein.

3. Independent Contractor. Consultant warrants that, during the term of this Agreement, Consultant will at all times be and remain an independent contractor, and Consultant will not be considered the agent, partner, principal, employee or servant of the Company, Holdings or any of their subsidiaries or affiliates. Consultant will be free to exercise Consultant's own judgment as to the manner and method of providing the consulting services to the Company, subject to applicable laws and requirements reasonably imposed by the Company. Consultant will at all times indemnify, hold harmless and defend the Company for all liabilities, losses, damages, costs (including, without limitation, legal costs and other professional fees on an indemnity basis) and expenses of whatsoever nature incurred or suffered by the Company, Holdings or any of their subsidiaries or affiliates arising from: (a) any income taxes or other taxes due on amounts paid to or on behalf of Consultant by the Company, or any other required remittances to any governmental entities, agencies or programs (including, without limitation, any interest, penalties or gross-ups thereon) arising in respect of Consultant for which the Company, Holdings or any of their subsidiaries or affiliates is called upon to account to the relevant taxing authority; and (b) any liability for any employment-related claim or any claim based on worker status brought by Consultant against the Company, Holdings or any of their subsidiaries or affiliates arising out of or in connection with Consultant's provision of services pursuant to this Agreement. Consultant hereby acknowledges that Consultant will have no recourse against the Company or Holdings (or any of their directors, officers, personnel, representatives, agents, successors, subsidiaries or affiliates) for any such liability, loss, damage, cost or expense.

4. Indemnification. The Company will indemnify Consultant during the term of this Agreement and thereafter to the full extent permitted by law as if he were an officer of the Company for all claims related to or arising out of his serving as a consultant of the Company hereunder; provided that in no event will Consultant be indemnified pursuant to this Section 4 in connection with any claims, causes of action, demands, fees or liabilities of any kind whatsoever, arising out of or relating to (a) the enforcement of the Company's rights hereunder or with respect to the Employment Agreement or any agreements identified in the Employment Agreement or (b) Consultant's illegal conduct, fraud (including, without limitation, undiscovered financial fraud), embezzlement or other willful misconduct.

5. Early Termination of Agreement. In the event this Agreement is terminated prior to its expiration due to Consultant's death or disability or by the Company without Cause (as defined in the Employment Agreement to the extent applicable) or by Consultant after a material breach of this Agreement by the Company, the Company will continue to pay Consultant, without set-off, counterclaim or other withholding, the consulting fee through the originally

scheduled expiration date of this Agreement, and will continue to provide Consultant and his dependents with COBRA (or other medical, dental and/or life insurance benefits) consistent with Section 1(c) through the originally scheduled expiration date of this Agreement.

6. Survival. Sections 2, 3 and 4 will survive and continue in full force in accordance with the terms thereof, notwithstanding any termination of this Agreement.

7. Severability. The Parties agree that if any provision of this Agreement is declared or determined by any court of competent jurisdiction to be illegal, invalid or unenforceable, the legality, validity and enforceability of the remaining parts, terms or provisions will not be affected thereby, and said illegal, unenforceable or invalid part, term or provision will be deemed not to be part of this Agreement.

8. Entire Agreement; Amendment. Except as otherwise set forth herein, this Agreement represents the entire agreement and understanding between Consultant and the Company concerning the specific subject matter of this Agreement and supersedes and replaces any and all prior agreements and understandings between Consultant and the Company concerning the specific subject matter of this Agreement. Any modification or amendment of this Agreement, or additional obligation assumed in connection with this Agreement, will be effective only if placed in writing and signed by both Parties or by authorized representatives of each of the Parties.

9. Captions; Drafter Protection. This Agreement's headings and captions are provided for reference and convenience only, and will not be employed in the construction of this Agreement. It is agreed and understood that the general rule pertaining to construction of contracts, that ambiguities are to be construed against the drafter, will not apply to this Agreement.

10. Counterparts. This Agreement may be executed in counterparts, and each counterpart will have the same force and effect as an original and will constitute an effective, binding agreement on the part of each of the undersigned.

11. Binding Effect; Assignment. Neither this Agreement, nor any rights or benefits hereunder, may be assigned, delegated, transferred, pledged or hypothecated without the prior written consent of the Parties, except that the Company may assign this Agreement to any assignee of or successor to substantially all of the business or assets of the Company or Holdings or any direct or indirect subsidiary of either of them without prior written consent of Consultant. In the event of Consultant's death, any amounts owed to Consultant hereunder shall instead be paid to Consultant's designated beneficiary (or, if none, to Consultant's estate).

12. No Reliance. Consultant acknowledges and agrees that he has not relied upon any advice whatsoever from the Company as to any provision of this Agreement, including, but not limited to, the taxability, whether pursuant to federal, state, local or foreign income tax statutes or regulations, or otherwise, of the payments made, action taken, or consideration transferred hereunder and that Consultant will be solely liable for all tax obligations arising therefrom.

13. Governing Law; Arbitration. This Agreement will be governed by and construed and enforced according to the laws of the State of New York. Any disputes arising from or relating to this Agreement shall be subject to arbitration pursuant to Section 21 of the Employment Agreement (which provisions shall be deemed expanded to apply to any dispute concerning or relating to Consultant's service with the Company or Holdings, or the termination of Consultant's service).

14. No Waiver. The failure of any party to insist upon the performance of any of the terms and conditions in this Agreement, or the failure to prosecute any breach of any of the terms and conditions of this Agreement, will not be construed thereafter as a waiver of any such terms or conditions. This entire Agreement will remain in full force and effect as if no such forbearance or failure of performance had occurred.

15. Warranties. Consultant warrants that he will not deliver or disclose to the Company information which infringes any property right of any third party relating to proprietary or trade secret information or copyrights. Consultant warrants that he is not a party to any other existing agreement which would prevent him from entering into this Agreement or which would adversely affect this Agreement, and agrees that he will not, during the term of this Agreement, enter into any such agreement.

16. Confidentiality. Unless otherwise required by law or regulation, or as necessary to perform his services for the Company hereunder, Consultant agrees to maintain absolute confidentiality of the services performed by Consultant hereunder and the information, reports and other work product produced by, or made available to, Consultant in connection with this Agreement or his services hereunder.

17. Voluntary Execution. Consultant acknowledges that he is executing this Agreement voluntarily and of his own free will. Consultant further acknowledges that he has read, fully understands and intends to be bound by the terms of this Agreement, and has had an opportunity to carefully review it with his attorney prior to executing it or warrants that he has chosen not to have his attorney review this Agreement.

IN WITNESS WHEREOF, the Parties have executed this Agreement as of the Effective Date.

SIRIUS XM RADIO INC.

By: /s/ Patrick Donnelly

Patrick Donnelly
Executive Vice President, General Counsel and Secretary

/s/ James E. Meyer

James E. Meyer

TAX SHARING AGREEMENT

This Tax Sharing Agreement (this "Agreement") is made and entered into as of February 1, 2021, by and between **LIBERTY MEDIA CORPORATION**, a Delaware corporation ("LMC"), for and on behalf of itself and each LMC Affiliate (as defined below), and **SIRIUS XM HOLDINGS INC.**, a Delaware corporation (the "Company"), for and on behalf of itself and each Company Affiliate (as defined below).

WITNESSETH:

WHEREAS, LMC and the Company are expected to become a part of an Affiliated Group (as defined below), and such Affiliated Group expects to file a consolidated federal income Tax Return in accordance with Section 1501 of the Code (and certain consolidated state and local income Tax Returns) for the Tax year during which the Company becomes a Member (as defined below) of such Affiliated Group and for subsequent Tax years; and

WHEREAS, it is deemed equitable and desirable that the parties hereto enter into this Agreement to set forth (i) the general principles under which they will calculate, allocate, and share consolidated federal, state and local income Tax liabilities (as determined under Treasury Regulation Section 1.1502-2 and any analogous provisions of state or local Tax Law) of the Affiliated Group as between the LMC Group, on the one hand, and the Company Group, on the other hand, (ii) the manner in which they will prepare and file various Tax Returns (as defined below) and meet certain other reporting obligations, (iii) the method for reimbursing LMC for payment of the Company Group's allocable share of consolidated federal, state and local income Tax liabilities and compensating the Company for use of a Tax Asset (as defined below) of any Member of the Company Group in arriving at such consolidated federal, state and local income Tax liabilities, and (iv) the provisions governing various related matters.

NOW, THEREFORE, the parties signatory hereto agree as follows:

1. **Definitions.** For purposes of this Agreement, the following terms shall be defined as follows:

(a) "Affiliated Group" shall mean, for any federal, state, or local Tax jurisdiction, the consolidated, combined or unitary group that files a Joint Return.

(b) "Agreement" shall have the meaning set forth in the first paragraph hereof, as such agreement may be amended or supplemented from time to time.

(c) "Business Day" shall mean any day other than a Saturday, Sunday or a day on which banking institutions in New York, New York are authorized or required by law or executive order to close.

(d) "Code" shall mean the Internal Revenue Code of 1986, as amended.

(e) "Company" shall have the meaning set forth in the first paragraph hereof, except as otherwise provided by Section

(f) "Company Affiliate" means any corporation or other Legal Entity directly or indirectly "controlled" by the Company at the time in question, where "control" means the ownership of 50% or more of the equity interests of such corporation or other Legal Entity (by voting power or value) or the possession, directly or indirectly, of the power to direct or cause the direction of the management or policies of such corporation or other Legal Entity.

(g) "Company Group" means, with respect to any Taxable year (or portion thereof) beginning on or after the Effective Date, the Company and each Subsidiary of the Company (but only while such Subsidiary is a Subsidiary of the Company).

(h) "Company Successor" shall have the meaning given to such term in Section 23(a)

(i) "Company Successor Parent" shall have the meaning given to such term in Section 23(a).

(j) "Consolidated Return Regulations" shall mean the Treasury Regulations promulgated under Chapter 6 of Subtitle A of the Code, including, as applicable, any predecessor or successor regulations thereto.

(k) "Contested Company Group Item" shall have the meaning given to such term in Section 9(b).

(l) "Controlling Party" shall have the meaning given to such term in Section 9(a).

(m) "Deconsolidation Event" means, with respect to the Company and each member of the Company Group, any event or transaction that causes the Company and/or one or more members of the Company Group to no longer be eligible to join with LMC or one or more members of the LMC Group in the filing of a Joint Return.

(n) "DIT" shall mean any "deferred intercompany transaction" or "intercompany transaction" within the meaning of the Consolidated Return Regulations, or any similar provisions of state, local or prior federal Tax Law.

(o) "Due Date" shall have the meaning given to such term in Section 6(b).

(p) "Effective Date" shall mean the date of this Agreement.

(q) "ELA" shall mean any "excess loss account" within the meaning of the Consolidated Return Regulations, or any similar provisions of state, local or prior federal Tax Law.

(r) "Estimated Tax Installment Date" means, with respect to United States federal income Taxes, the estimated Tax installment due dates prescribed in Section 6655(c) of the Code and, in the case of any other Tax, means any other date on which an installment payment of an estimated amount of such Tax is required to be made.

(s) "Exchange Act" shall mean the Securities Exchange Act of 1934, as amended.

(t) "Final Determination" shall mean the final resolution of liability for any Tax for any Taxable period, by or as a result of: (i) a closing agreement or similar final settlement with the Internal Revenue Service or the relevant state or local Governmental Authorities, (ii) an agreement contained in Internal Revenue Service Form 870-AD or other similar form, (iii) an agreement that constitutes a determination under Section 1313(a)(4) of the Code, (iv) any allowance of a refund or credit in respect of an overpayment of Tax, but only after the expiration of all periods during which such refund or credit may be recovered by the jurisdiction imposing the Tax, (v) a deficiency notice with respect to which the period for filing a petition with the Tax Court or the relevant state or local tribunal has expired, (vi) a decision, judgment, decree or other order of any court of competent jurisdiction that is not subject to appeal or as to which the time for appeal has expired, or (vii) the payment of any Tax with respect to any item disallowed or adjusted by a Tax Authority provided that LMC and the Company agree that no action should be taken to recoup such payment.

(u) "Group" shall mean either the LMC Group or the Company Group.

(v) "Independent Accountant" shall have the meaning set forth in Section 2(b)(i)

(w) "Interest Rate" means the Rate determined below, as adjusted as of each Interest Rate Determination Date. The "Rate" means, with respect to each period between two consecutive Interest Rate Determination Dates, a rate determined two (2) Business Days before the earlier Interest Rate Determination Date equal to the interest rate that would be applicable on such date to a "large corporate underpayment" (within the meaning of Section 6621(c) of the Code) under Sections 6601 and 6621 of the Code. Interest will be calculated on the basis of a year of 360 days and the actual number of days for which due.

(x) "Interest Rate Determination Date" means the Due Date and each March 31, June 30, September 30, and December 31 thereafter.

(y) "Joint Return" shall mean any federal, state or local Tax Return for any Taxable period ending on or after the Effective Date that includes at least two Members, of which one Member is a member of the Company Group and the other Member is a member of the LMC Group.

(z) "Legal Entity" shall mean a corporation, partnership, limited liability company or other legal entity under the corporation, partnership, limited liability company or other organizational laws of a state or other jurisdiction.

(aa) "LMC" shall have the meaning set forth in the first paragraph hereof, except as otherwise provided by Section 23.

(ab) "LMC Affiliate" shall mean any corporation or other Legal Entity directly or indirectly "controlled" by LMC where "control" means the ownership of 50% or more of the equity interests of such corporation or other Legal Entity (by voting power or value) or the possession, directly or indirectly, of the power to direct or cause the direction of the management or policies of such corporation or other Legal Entity; *provided*, *however*, that such term shall not include the Company or any Company Affiliate.

(ac) "LMC Group" means, with respect to any Taxable year (or portion thereof) beginning on or after the Effective Date, LMC and each Subsidiary of LMC (but only while such Subsidiary is a Subsidiary of LMC); *provided*, *however*, that such term shall not include any Subsidiary of LMC for such Taxable year (or portion thereof) as and to the extent that such Subsidiary is a member of the Company Group.

(ad) "LMC Successor" shall have the meaning given to such term in Section 23(b)(i).

(ae) "LMC Successor Parent" shall have the meaning given to such term in Section 23(b)(i).

(af) "LMC Successor Transaction" shall have the meaning given to such term in Section 23(b)(ii).

(ag) "Losses" shall mean any and all damages, losses, deficiencies, liabilities, obligations, penalties, judgments, settlements, claims, payments, fines, interest, costs and expenses (including, without limitation, the fees and expenses of any and all actions and demands, assessments, judgments, settlements and compromises relating thereto and the costs and expenses of attorneys', accountants', consultants' and other professionals' fees and expenses incurred in the investigation or defense thereof or the enforcement of rights hereunder); *provided*, *however*, that "Losses" shall exclude any special or punitive damages; *provided*, *further*, that the foregoing proviso will not be interpreted to limit indemnification for Losses incurred as a result of the assertion by a claimant (other than the parties hereto and their successors and assigns) in a third-party claim for special or punitive damages.

(ah) "Member" or "member" shall mean an entity that is an includible corporation as defined in Section 1504(b) of the Code (or any analogous provisions of state, local or other applicable Tax Law).

(ai) "Parent" shall mean, as the context may require, the common parent of any consolidated, combined, or unitary group that has filed, or is required to file, any Joint Return.

(aj) "Person" shall mean an individual, corporation, limited liability company, partnership, trust, incorporated or unincorporated association, joint venture or other entity.

(ak) "Post-Deconsolidation Period" means any Taxable period beginning after the date of a Deconsolidation Event.

(al) "Pre-Deconsolidation Period" means any Taxable period beginning on or before the date of a Deconsolidation Event.

(am) "Redetermination" shall mean any redetermination of Taxes as the result of any Tax Proceeding, a claim for refund, an amended Tax Return or otherwise in which (x) additional Taxes to which such determination relates are subsequently paid, (y) a Tax Refund or a Tax Benefit relating to such Taxes is received or used, or (z) the amount or character of any Tax Item is adjusted or redetermined.

(an) "Separate Return" shall mean any Tax Return that is not a Joint Return.

(ao) "Separate Return Tax Liability" means an amount equal to the hypothetical federal, state or local Tax liability that the members of the Company Group included in a Joint Return filed in any Tax jurisdiction would have incurred if they had filed a consolidated return, combined return (including nexus combination, domestic combination, line of business combination or any other form of combination), unitary return, or separate return, as the case may be, separate from the members of the LMC Group, for the relevant Tax period in such Tax jurisdiction (based upon the assumption that such members of the Company Group were required to file in such Tax jurisdiction), and their income was taxable at the highest corporate tax rate in effect for such period in such Tax jurisdiction; *provided*, *however*, that (1) the Separate Return Tax Liability shall be computed by LMC using such methods, conventions, practices, principles, positions, and elections (for example, the election to deduct or credit foreign Taxes) as are consistent with the methods, conventions, practices, principles, positions and elections that are used by LMC or Parent, as the case may be, in preparing the applicable Joint Return, and by taking into account only those Tax Assets of the Company Group (or other Tax Items of loss, deduction or credit of the Company Group) that are included in and used in the applicable Joint Return to create any Tax Benefit (without regard to whether the Company Group could have used such Tax Assets or Tax Items on its hypothetical separate return), (2) the Consolidated Return Regulations (or any similar provisions of state or local Tax Law) and the Joint Returns filed by the Affiliated Group in such Tax jurisdiction shall determine the timing of the recognition of Tax Items with respect to DITs and ELAs and the determination of which Legal Entity shall bear the Tax benefit or burden of such Tax Items, and the Company Group shall be responsible for the Tax Items recognized by its respective members with respect to any DITs and ELAs, (3) the Separate Return Tax Liability with respect to a Joint Return filed in a state or locality shall be computed by taking into account such Tax Items, and such receipts or other data used to compute apportionment factors, of each Company Group member as are taken into account with respect to such Company Group member in preparing such Joint Return, regardless of whether such Company Group member separately has tax nexus with such state or locality, and (4) although the Separate Return Tax Liability is to be computed on a hypothetical basis as if the members of the Company Group that are part of the Affiliated Group were separate from the other members of the Affiliated Group, the fact that such members of the Company Group are included in a Joint Return and the effect that such inclusion has on the calculation of any Tax

Item or on any Tax reporting requirement, shall nevertheless be taken into account for purposes of computing the Separate Return Tax Liability.

(ap) "spin-off entity" shall have the meaning given to such term in Section 12(b).

(aq) "Subsidiary" when used with respect to any Person, means (i)(A) a corporation a majority in voting power of whose share capital or capital stock with voting power, under ordinary circumstances, to elect directors is at the time, directly or indirectly, owned by such Person and/or one or more Subsidiaries of such Person, whether or not such power is subject to a voting agreement or similar encumbrance, (B) a partnership or limited liability company in which such Person or a Subsidiary of such Person is, at the date of determination, (1) in the case of a partnership, a general partner of such partnership with the power affirmatively to direct the policies and management of such partnership or (2) in the case of a limited liability company, the managing member or, in the absence of a managing member, a member with the power affirmatively to direct the policies and management of such limited liability company, or (C) any other Person (other than a corporation, partnership, or limited liability company) in which such Person and/or one or more Subsidiaries of such Person, directly or indirectly, at the date of determination thereof, has or have (1) the power to elect or direct the election of a majority of the members of the governing body of such Person, whether or not such power is subject to a voting agreement or similar encumbrance, or (2) in the absence of such a governing body, at least a majority voting interest or (ii) any other Person of which an aggregate of 50% or more of the equity interests are, at the time, directly or indirectly, owned by such Person and/or one or more Subsidiaries of such Person.

(ar) "Tax" and "Taxes" means any and all federal, state, local or non-U.S. taxes, charges, fees, duties, levies, imposts, rates or other like governmental assessments or charges, and, without limiting the generality of the foregoing, shall include income, gross receipts, net worth, property, sales, use, license, excise, franchise, capital stock, employment, payroll, unemployment insurance, social security, Medicare, stamp, environmental, value added, alternative or added minimum, ad valorem, trade, recording, withholding, occupation or transfer taxes, together with any related interest, penalties and additions imposed by any Tax Authority. The term "Taxable" shall have a correlative meaning; *provided that*, references to "Taxable period" for any franchise or other doing business Tax (including, but not limited to, the Texas franchise Tax) shall mean the Taxable period during which the income, operations, assets, or capital comprising the base of such Tax is measured, regardless of whether the right to do business for another Taxable period is obtained by the payment of such Tax.

(as) "Tax Asset" shall mean any Tax Item that has accrued for Tax purposes, but has not been realized during the Taxable period in which it has accrued, and that could reduce a Tax in another Taxable period, including a net operating loss, net capital loss, disallowed business interest, general business tax credit, foreign tax credit, charitable deduction, credit related to alternative minimum tax, or any other Tax credit.

(at) "Tax Authority" means, with respect to any Tax, the governmental entity or political subdivision, agency, commission or authority thereof that imposes such Tax, and the

agency, commission or authority (if any) charged with the assessment, determination or collection of such Tax for such entity or subdivision.

(au) "Tax Benefit" means a reduction in the Tax liability (or increase in Tax Refund) of a Taxpayer for any Taxable period. Except as otherwise provided in this Agreement, a Tax Benefit shall be deemed to have been realized or received from a Tax Item in a Taxable period only if and to the extent that the Tax liability (or Tax Refund) of the Taxpayer for such period, after taking into account the effect of the Tax Item on the Tax liability (or Tax Refund) of such Taxpayer in the current period and all prior periods, is less than (or, in case of a Tax Refund, greater than) it would have been had such Tax liability (or Tax Refund) been determined without regard to such Tax Item.

(av) "Tax Item" shall mean any item of income, gain, loss, deduction, credit, recapture of credit or any other item which increases or decreases Taxes paid or payable, including an adjustment under Section 481 of the Code resulting from a change in accounting method.

(aw) "Tax Law" means the law of any governmental entity or political subdivision thereof, and any controlling judicial or administrative interpretations of such law, relating to any Tax.

(ax) "Tax Package" shall have the meaning given to such term in Section 3(c).

(ay) "Tax Proceeding" shall mean any Tax audit, assessment, or other examination by any Tax Authority, as well as any controversy, litigation, other proceeding, or appeal thereof relating to Taxes, whether administrative or judicial, including proceedings relating to competent authority determinations.

(az) "Tax Refund" shall mean any refund of Taxes, including any reduction in a Tax liability by means of a credit, offset or otherwise.

(ba) "Tax Return" means any report of Taxes due, any claims for refund of Taxes paid, any information return with respect to Taxes, or any other similar report, statement, declaration, or document filed or required to be filed (by paper, electronically or otherwise) under any applicable Tax Law, including any attachments, exhibits, or other materials submitted with any of the foregoing, and including any amendments or supplements to any of the foregoing.

(bb) "Taxpayer" means any taxpayer and its Affiliated Group or similar group of entities as defined under corresponding provisions of the laws of any other jurisdiction of which a taxpayer is a member.

(bc) "Treasury Regulations" shall mean the regulations promulgated by the U.S. Department of the Treasury under the Code.

2. Separate Return Tax Liability of the Company Group; Payments for Tax Benefits

(a) Payment of Separate Return Tax Liability by the Company to LMC

(i) Estimated Tax Payments. With respect to each Taxable period for which a Joint Return will be filed, at least five (5) Business Days prior to each relevant Estimated Tax Installment Date, the Company shall pay to LMC an amount equal to the installment of the estimated Separate Return Tax Liability, as shown in the computation provided by LMC to the Company pursuant to Section 2(b)(i). For the avoidance of doubt, the amounts paid by the Company to LMC under this Section 2(a)(i) shall be taken into account in determining the amounts to be paid by the Company or LMC, as the case may be, pursuant to Section 2(a)(ii).

(ii) Final Return Tax Payments. With respect to each Taxable period for which a Joint Return will be filed (other than a Joint Return relating to estimated Tax payments), at least ten (10) Business Days prior to the due date (including extensions) for the filing of each such Joint Return,

(1) the Company shall pay to LMC an amount equal to the excess, if any, of (x) the Separate Return Tax Liability of the Company Group for such Taxable period and such Joint Return over (y) the aggregate amount, if any, previously paid by the Company to LMC with respect to such Taxable period and such Joint Return under Section 2(a)(i), as shown in the computation provided by LMC to the Company pursuant to Section 2(b)(i); and

(2) LMC shall pay to the Company an amount equal to the excess, if any, of (x) the aggregate amount, if any, previously paid by the Company to LMC with respect to such Taxable period and such Joint Return under Section 2(a)(i) over (y) the Separate Return Tax Liability of the Company Group for such Taxable period and such Joint Return, as shown in the computation provided by LMC to the Company pursuant to Section 2(b)(i).

(b) Determination of Separate Return Tax Liability.

(i) Manner of Calculation. For each Taxable period during which a Joint Return will be filed, LMC shall provide to the Company, not less than twenty (20) Business Days prior to the due date (including extensions) for the filing of such Joint Return (1) a pro forma draft of the portion of such Joint Return that reflects the Tax Items of the Company Group, (2) a statement that sets forth in reasonable detail the computation of the Separate Return Tax Liability of the Company Group in respect of such Joint Return, and (3) the amount payable by the Company or LMC, as determined in accordance with this Agreement, pursuant to Section 2(a); *provided, however*, that in the case of any Joint Return relating to estimated Tax payments, LMC shall provide the foregoing information to the Company not less than ten (10) Business Days prior to each relevant Estimated Tax Installment Date. If the Company disagrees with any Tax Item of the Company Group reflected on the pro forma draft of any Joint Return or any tax position relating to the computation of the Separate Return Tax Liability, then the

Company shall promptly notify LMC and the parties shall use their reasonable best efforts to resolve the dispute. If the parties are unable to resolve any such dispute within ten (10) Business Days after the Company gives notice to LMC, then the matter shall be referred to a nationally recognized accounting firm that is mutually acceptable to LMC and the Company (the "Independent Accountant") to resolve such dispute. All costs, fees, and expenses incurred with respect to the resolution of such dispute shall be borne equally by LMC and the Company, except that if the Independent Accountant determines that the proposed position submitted by a party to the Independent Accountant for its determination is frivolous, has not been asserted in good faith, or is not supported by substantial authority, then 100% of such costs, fees, and expenses shall be borne by such party. If any dispute related to the computation of the Separate Return Tax Liability has not been resolved by the due date for the payment of the Separate Return Tax Liability (including installments of estimated Separate Return Tax Liability) with respect to the applicable Joint Return as described in Section 2(a), then the Company or LMC, as the case may be, shall make its payment based upon the original statement prepared by LMC, and any adjustments to such payment will be made in accordance with Section 5 following the resolution of such dispute.

(ii) Separate Return Tax Liability. For purposes of this Agreement, the "Separate Return Tax Liability" shall be determined as if the Company Group were filing a separate Tax Return under the Code or any analogous provisions of state or local Tax Law, and the term will not have the same meaning as set forth in Treasury Regulation Section 1.1502-12. For the avoidance of doubt, (A) the computation of the Separate Return Tax Liability of the Company Group shall be determined without regard to whether the Affiliated Group is obligated to pay a Tax liability for the applicable Taxable period and (B) no Tax Asset or other Tax Item that has previously been taken into account in any Taxable period for the Company Group's benefit in determining the Separate Return Tax Liability payable under Section 2(a) or any amount payable under Section 2(c) or Section 5, or that has otherwise been realized by the Company Group, shall again be taken into account in this computation. If the Separate Return Tax Liability of the Company Group for a Taxable period is less than zero, then the Separate Return Tax Liability of the Company Group shall be deemed to be zero for such period for purposes of Section 2(a).

(c) Payment for Tax Benefits. Within ten (10) Business Days of filing a Joint Return, LMC shall (i) pay to the Company an amount equal to the Tax Benefit (if any) that the LMC Group recognized on such Joint Return as a result of the Separate Return Tax Liability being less than zero for such Taxable period or otherwise as a result of the use by the LMC Group of Tax Assets of the Company Group and (ii) provide to the Company a statement setting forth in reasonable detail the computation of the amount so payable. For the avoidance of doubt, no Tax Asset or other Tax Item that has been taken into account in any Taxable period for the Company Group's benefit in determining the Separate Return Tax Liability payable under Section 2(a) or

any amount payable under this Section 2(c) or Section 5, or that has otherwise been realized by the Company Group, shall again be taken into account for purposes of determining any amount payable under this Section 2(c).

3. Preparation and Filing of Tax Returns.

(a) Joint Returns. LMC shall be responsible for (i) preparing and filing (or causing to be prepared and filed) all Joint Returns for any Taxable period and (ii) remitting (or causing to be remitted) to the proper Tax Authority the Tax shown on such Joint Returns.

(b) Separate Returns.

(i) LMC Separate Returns. LMC shall be responsible for (1) preparing and filing (or causing to be prepared and filed) all Separate Returns for any Taxable period that include one or more members of the LMC Group and (2) remitting (or causing to be remitted) to the proper Tax Authority the Tax shown on such Separate Returns.

(ii) Company Separate Returns. The Company shall be responsible for (1) preparing and filing (or causing to be prepared and filed) all Separate Returns for any Taxable period that include one or more members of the Company Group and (2) remitting (or causing to be remitted) to the proper Tax Authority the Tax shown on such Separate Returns.

(c) Provision of Information. The Company shall provide LMC with all information necessary for LMC or Parent to properly and timely file all Joint Returns. Such information may include, but need not be limited to (i) a Tax Return package for Joint Returns and Separate Returns of the Company Group, (ii) an estimated Tax package for Joint Returns and Separate Returns of the Company Group, (iii) a Tax provision package, (iv) a Tax projection package, and (v) workpapers and other supporting documentation relating to the foregoing (collectively, the "Tax Package"). With respect to any Tax Items of the Company Group includible in a Joint Return, the Tax Package shall be prepared, with respect to such Tax Items, using the methods, conventions, practices, principles, positions, and elections used by LMC or Parent in preparing the applicable Joint Return. In the event the Company fails to provide information necessary for LMC or Parent to properly and timely file a Joint Return in the form reasonably requested by LMC and within sufficient time to permit the timely filing of such Joint Return, the twenty (20) Business Day notice period (or ten (10) Business Day notice period in the case of estimated Tax payments) in Section 2(b)(i) shall be waived, and any penalties, interest, or other payment obligation assessed against the Affiliated Group by reason of a delay in filing such Tax Return shall be payable by the Company, but only to the extent that such delay is attributable to the Company's failure to provide the necessary information on a timely basis. If the Company provides information in the form requested by LMC and within sufficient time to permit the timely filing of a particular Tax Return, any penalties, interest, or other payments assessed against the Affiliated Group by reason of a delay in filing such Tax Return shall not be payable by the Company.

(d) Special Rules Relating to the Preparation of Tax Returns.

(i) Except as otherwise provided in this Agreement, the party that is responsible for filing (or causing to be filed) a Tax Return pursuant to this Section 3 shall have the exclusive right, in its sole discretion, with respect to such Tax Return to determine (1) the manner in which such Tax Return shall be prepared and filed, including the methods, conventions, practices, principles, positions, and elections to be used and the manner in which any Tax Item shall be reported, (2) whether any extensions may be requested, (3) whether an amended Tax Return shall be filed, (4) whether any claims for refund shall be made, (5) whether any refunds shall be paid by way of refund or credited against any liability for the related Tax, and (6) whether to retain outside firms to prepare or review such Tax Return; *provided*, *however*, that with respect to Joint Returns, LMC shall prepare such Joint Returns in good faith and shall consult with the Company prior to changing any method of accounting if such action would impact the Company Group.

(ii) With respect to any Separate Return for which the Company is responsible for filing (or causing to be filed), the Company may not take (and shall cause the members of the Company Group not to take) any positions that it knows, or reasonably should know, are inconsistent with the methods, conventions, practices, principles, positions, or elections used by LMC in preparing any Joint Return, except to the extent that (A) the failure to take such position would be contrary to applicable Tax Law or (B) taking such position would not reasonably be expected to adversely affect any member of the LMC Group. The Company and the other members of the Company Group shall (1) allocate Tax Items between such Separate Return for which the Company is responsible and any related Joint Return for which LMC is responsible that is filed in the same Tax year in a manner that is consistent with the reporting of such Tax Items on such related Joint Return and (2) make any applicable elections required under applicable Tax Law necessary to effect such allocation.

4. **Tax Liability of the Company in the Event of Disaffiliation**. Although neither party has any plan or intent to effectuate any transaction that would constitute a Deconsolidation Event, the parties have set forth how certain Tax matters with respect to a Deconsolidation Event would be handled in the event that, as a result of changed circumstances, a transaction that constitutes a Deconsolidation Event occurs at some future time.

(a) In General. In the case of a Deconsolidation Event, (i) the Company and the Company Affiliates shall remain liable under this Agreement for the Separate Return Tax Liability of the Company Group for the Taxable period during which such Deconsolidation Event occurs and for prior Taxable periods in which any such disaffiliated members of the Company Group were members of the Affiliated Group, and the Company shall be required to pay LMC all amounts for such Taxable periods that are determined pursuant to this Agreement and (ii) the Company shall remain entitled to receive, and LMC shall remain liable to pay, any

Tax Benefit, Tax Refund or other amounts payable to the Company under this Agreement that relate to any Pre-Deconsolidation Period. Moreover, should a Tax Proceeding ultimately result in assessment of a Tax deficiency (or payment of a Tax Refund) against any Affiliated Group for years in which the Company or the other members of the Company Group were affiliated with such Affiliated Group, the Company and the Company Affiliates shall remain liable for the Company Group's portion of such Tax deficiency (or remain entitled to receive their portion of such Tax Refund) determined pursuant to this Agreement, plus interest and penalties as provided in Section 6(a), if any.

(b) Allocation of Tax Items. In the case of a Deconsolidation Event, all Tax computations for (i) any Pre-Deconsolidation Periods ending on the date of the Deconsolidation Event and (ii) the immediately following Taxable period of the Company or any disaffiliated members of the Company Group, shall be made pursuant to the principles of Section 1.1502-76(b) of the Treasury Regulations or any similar provision of federal, state or local Tax Law, as reasonably determined by LMC.

(c) Carrybacks.

(i) In General. In the case of a Deconsolidation Event, LMC agrees to pay to the Company the Tax Benefit from the recognition by LMC or Parent on a Joint Return for any Pre-Deconsolidation Period of a carryback of any Tax Asset of the Company Group from a Post-Deconsolidation Period (other than a carryback of any Tax Asset which increases any Taxes, or reduces any Tax Benefit, attributable to the LMC Group for any reason); *provided, however*, that no payment shall be required to be made with respect to any Tax Benefit recognized by LMC or Parent with respect to any Tax Asset that has previously been taken into account in any Taxable period for the Company Group's benefit to reduce the Separate Return Tax Liability payable under Section 2(a) or to determine any amount payable to the Company under Section 2(c) or Section 5. If subsequent to the payment by LMC to the Company for any such Tax Benefit, there shall be a Redetermination which results in a decrease (1) to the amount of the Tax Asset so carried back or (2) to the amount of such Tax Benefit, the Company shall repay to LMC any amount paid to the Company pursuant to this Section 4(c)(i) which would not have been payable to the Company pursuant to this Section 4(c)(i) had the amount of the Tax Benefit been determined in light of these events. Nothing in this Section 4(c)(i) shall require LMC to file an amended Tax Return or claim for refund of Taxes.

(ii) Relinquishment. In the case of a Deconsolidation Event, notwithstanding any other provision of this Agreement, to the extent permitted by law, the Company hereby expressly agrees to elect (under Section 172(b)(3) of the Code and, to the extent feasible, any similar provision of any federal, state or local Tax Law, including Section 1.1502-21(b)(3) of the Treasury Regulations) to relinquish any right to carryback net operating losses (or other Tax Items, to the extent permissible) to any Pre-Deconsolidation Periods of LMC (in which event no

payment shall be due from LMC to the Company in respect of such net operating losses or other Tax Items).

(d) Continuing Covenants. Each of LMC (for itself and each LMC Affiliate) and the Company (for itself and each Company Affiliate) agrees (i) not to take any action reasonably expected to result in an increased Tax liability to the other, a reduction in a Tax Asset of the other or an increased liability to the other under this Agreement, and (ii) to take any action reasonably requested by the other that would reasonably be expected to result in a Tax Benefit; *provided*, in either such case, that the taking or refraining to take such action does not result in any additional cost not fully compensated for by the other party or any other adverse effect to such party. The parties hereby acknowledge that the preceding sentence is not intended to limit, and therefore shall not apply to, the rights of the parties with respect to matters otherwise covered by this Agreement.

5. Adjustments.

(a) Adjustment Payments. In the event of any Redetermination of any Joint Return, or resolution of any dispute between the parties by the Independent Accountant or otherwise, which affects the calculation of the Company Group's Separate Return Tax Liability or any other calculations or determinations under this Agreement for any Taxable period, the amounts required to be paid pursuant to Section 2(a) and Section 2(c), as applicable, (as well as any amounts required to be paid under Section 6 below) shall be recomputed for such Taxable period to take into account such Redetermination or dispute resolution. The Company shall pay LMC, or LMC shall pay the Company, as applicable, an amount equal to the difference between the payment or payments previously made between the parties in respect of such redetermined Joint Return or Separate Return Tax Liability and the amount that would have been paid pursuant to this Agreement in respect of such redetermined Joint Return (if such redetermined Joint Return had been filed on the basis of the Redetermination) or Separate Return Tax Liability. In the event LMC or Parent is required to pay to any Tax Authority any amount for additional Taxes due to the disallowance of all or part of any Tax Item for which the Company received a payment pursuant to Section 2(c) (or if LMC or Parent would have been so required to pay any Tax Authority but for other credits or adjustments), the Company shall pay to LMC the amount of such additional Tax paid by LMC or Parent (or which LMC or Parent would have been required to pay but for other credits or adjustments); *provided*, *however*, the amount so paid by the Company to LMC shall not exceed the cumulative amount paid to the Company pursuant to Section 2(c) with respect to such Tax Item (except as provided in Section 6 below). If a payment is made as a result of a Redetermination or dispute resolution which does not conclude the matter, further adjusting payments will be made, as appropriate, to reflect the outcome of any subsequent Redeterminations or dispute resolution, as applicable.

(b) Timing of Payments. Any payment by LMC or the Company required (x) by any dispute resolution shall be paid within five (5) Business Days after the date such dispute is resolved and (y) by any Redetermination in which (i) additional Taxes are paid, will be due five (5) Business Days after the date on which the additional Taxes were paid or, if later, five (5) Business Days after the date of a request from the other party for the payment, (ii) a Tax Refund

or Tax Benefit is received or used, will be due five (5) Business Days after the Tax Refund or Tax Benefit was received or used, or (iii) the amount or character of a Tax Item was adjusted or redetermined, will be due five (5) Business Days after the date on which the final action resulting in such adjustment or redetermination is taken by a Tax Authority or either party or their Subsidiaries, as applicable.

6. Payments.

(a) Payment of Interest, Penalties, and Expenses. Interest, penalties, and expenses incurred by LMC or Parent in connection with the amendment of any Joint Return and/or any Tax Proceeding, shall be borne equitably by those parties whose Tax liability may be affected by such amendment or Tax Proceeding, unless otherwise provided under this Agreement. LMC shall act in good faith with respect to any interest, penalties, and expenses to be charged to the Company.

(b) Interest on Late Payments. Payments pursuant to this Agreement that are not made by the date prescribed in this Agreement or, if no such date is prescribed, not later than five (5) Business Days after demand for payment is made (the "Due Date") shall bear interest for the period from and including the date immediately following the Due Date through and including the date of payment at the Interest Rate. Such interest will be payable at the same time as the payment to which it relates.

(c) Rules Regarding Payments for Tax Refunds or Tax Benefits. If a party receives or uses a Tax Refund or Tax Benefit for which the other party is entitled to reimbursement under this Agreement, then unless otherwise specified in this Agreement, the party receiving or using the Tax Refund or Tax Benefit shall pay to the other party entitled to reimbursement, within five (5) Business Days following the receipt or use of such Tax Refund or Tax Benefit, an amount equal to such Tax Refund or Tax Benefit. For purposes of this Agreement, a Tax Benefit (other than a Tax Refund) shall be considered used or received (i) at the time the Tax Return is filed with respect to such Tax Benefit, or (ii) if no Tax Return is filed, (x) at the time a Tax Refund generated by use of such Tax Benefit is received or (y) if no Tax Refund is received, at the time the Tax would have been due in the absence of such Tax Benefit. The amount of such Tax Benefit shall be the amount by which Taxes are actually reduced by such Tax Benefit (or the amount by which a Tax Refund is actually increased by such Tax Benefit).

(d) Tax Consequences of Payments. For all Tax purposes and to the extent permitted by applicable Tax Law, the parties hereto shall treat any payment made pursuant to this Agreement as a capital contribution or a distribution, as the case may be, under the principles of Treasury Regulation Section 1.1552-1(b)(2), Treasury Regulation Section 1.1502-33(d)(1)(ii), Revenue Ruling 73-605, 1973-2 C.B. 109 or Revenue Ruling 76-302, 1976-2 C.B. 257, as applicable, and such payments will not create liabilities or receivables among the parties. If the receipt or accrual of any payment under this Agreement causes, directly or indirectly, an increase in the taxable income of the recipient under one or more applicable Tax Laws, such payment shall be increased so that, after the payment of any Taxes with respect to the payment, the recipient thereof shall have realized the same net amount it would have realized had the payment not resulted in taxable income. To the extent that any payment for which any party

hereto (the indemnifying party) is required to pay another party (the indemnified party) pursuant to this Agreement may be deducted or credited in determining the amount of any other Taxes required to be paid by the indemnified party (for example, state Taxes which are permitted to be deducted in determining federal Taxes), the amount of any payment made to the indemnified party by the indemnifying party shall be decreased by taking into account any resulting reduction in other Taxes of the indemnified party. If such a reduction in Taxes of the indemnified party occurs following the payment made to the indemnified party with respect to the relevant indemnified Taxes, the indemnified party shall promptly repay the indemnifying party the amount of such reduction when actually realized. If the Tax Benefit arising from the foregoing reduction of Taxes described in this Section 6(d) is subsequently decreased or eliminated, then the indemnifying party shall promptly pay the indemnified party the amount of the decrease in such Tax Benefit.

7. Indemnification.

(a) Indemnification by LMC. LMC shall indemnify and hold harmless each member of the Company Group from and against (i) any Taxes which a member of the LMC Group is required to pay to a Tax Authority (except for Taxes, including the amount of any Separate Return Tax Liability, which LMC has a right of reimbursement hereunder from the Company), or in respect of which LMC is required to make a payment hereunder to the Company, (ii) any Taxes imposed upon any member of the Company Group pursuant to Treasury Regulation Section 1.1502-6 or any analogous provision of state or local Tax Law for any Taxable period for which a Joint Return was filed in any Tax jurisdiction (except for Taxes, including the amount of any Separate Return Tax Liability, which LMC has a right of reimbursement hereunder from the Company) and (iii) any Taxes and Losses arising out of or based upon any breach or nonperformance of any covenant or agreement made or to be performed by LMC contained in this Agreement. For the avoidance of doubt, in no event shall LMC be required to indemnify the Company with respect to the loss of any Tax attributes by any member of the Company Group.

(b) Indemnification by the Company. The Company shall indemnify and hold harmless each member of the LMC Group from and against (i) any Taxes which a member of the Company Group is required to pay to a Tax Authority (except for Taxes which the Company has a right of reimbursement hereunder from LMC or Taxes described in Section 7(a)(ii)) or in respect of which the Company is required to make a payment hereunder to LMC and (ii) any Taxes and Losses arising out of or based upon any breach or nonperformance of any covenant or agreement made or to be performed by the Company contained in this Agreement. For the avoidance of doubt, in no event shall the Company be required to indemnify LMC with respect to the loss of any Tax attributes by any member of the LMC Group.

8. Appointment of Agent. The Company consents to the appointment of LMC (and Parent, if Parent is not LMC) as agent for the members of the Company Group in respect of all matters relating to Joint Returns, and agrees that LMC (and Parent) shall have full authority to determine the Company Group's Separate Return Tax Liability in accordance with Section 2, to file Joint Returns (or otherwise cause any Joint Returns to be filed) and to make or change any Tax elections (or cause any Tax elections to be made or changed) on behalf of the Company

Group, and to control Tax Proceedings in accordance with Section 9, in each case, except as otherwise provided in this Agreement. The agency power of LMC (and Parent), as described in this Section 8, shall extend to all periods during which the Company or any member of the Company Group is a member of any Affiliated Group, and, in the event of the disaffiliation of the Company or any member of the Company Group, LMC (and Parent) shall retain its agency powers described herein to make or change on behalf of the Company, or any member of the Company Group, any election or other decision affecting Tax liabilities for such periods that the Company or such member of the Company Group was affiliated with the Affiliated Group.

9. Tax Proceedings.

(a) In General. Except as provided in Section 9(b), (i) with respect to any Joint Returns and any Separate Returns described in Section 3(b)(i), LMC, and (ii) with respect to Separate Returns described in Section 3(b)(ii), the Company (in either case, the "Controlling Party"), shall have the exclusive right, in its sole discretion, to control, contest, and represent the interests of each member of the LMC Group and/or the Company Group, as applicable, in any Tax Proceeding relating to such Tax Return and to resolve, settle or agree to any deficiency, claim or adjustment proposed, asserted or assessed in connection with or as a result of any such Tax Proceeding. Except as otherwise provided in Section 9(b), the Controlling Party's rights shall extend to any matter pertaining to the management and control of a Tax Proceeding, including execution of waivers, choice of forum, scheduling of conferences and the resolution of any Tax Item.

(b) Participation of Non-Controlling Party. In any Tax Proceeding relating to a Joint Return in which any Tax Item of the Company Group is a subject of such Tax Proceeding (a "Contested Company Group Item"), the Company shall be entitled to participate in such Tax Proceeding at its expense, insofar as the liabilities of the Company Group are concerned, and LMC shall consult with the Company with respect to any Contested Company Group Item, shall act in good faith with a view to the merits in connection with such Tax Proceeding, shall keep the Company updated and informed with respect to such Contested Company Group Item and shall not settle or compromise any Contested Company Group Item in excess of $500,000 without the Company's prior written consent, such consent not be unreasonably withheld or delayed.

(c) Notice. If a party becomes aware of the existence of a Tax issue that may give rise to an indemnification obligation under this Agreement, such party shall give prompt notice to the other party of such issue (and such notice shall contain factual information, to the extent known, describing any asserted Tax liability in reasonable detail), and shall promptly forward to the other party copies of all notices and material communications with any Tax Authority relating to such issue. Failure to give timely notice shall not affect the indemnities given hereunder except, and only to the extent that, the indemnifying party shall have been actually materially prejudiced as a result of such failure.

10. Cooperation. The parties shall cooperate with one another in all matters relating to Taxes (and each shall cause its respective affiliates to so cooperate). The Company shall provide LMC, and LMC shall provide the Company, with such cooperation and information as is necessary in order to enable LMC, Parent and the Company to satisfy its Tax, accounting and

other legitimate requirements. Unless otherwise provided under this Agreement, such cooperation and information shall include (i) making the parties' respective knowledgeable employees available during normal business hours, (ii) providing the information required by reasonable Tax and accounting questionnaires from the other party (at the times and in the format as reasonably required by such other party), (iii) maintaining such books and records and providing such information as may be necessary or reasonably useful in the filing of Joint Returns and Separate Returns, (iv) executing such documents as may be necessary or reasonably useful in connection with any Tax Proceeding, the filing of Joint Returns and Separate Returns, or the filing of refund claims by a member of the LMC Group or the Company Group (including certification, to the best of a party's knowledge, of the accuracy and completeness of the information it has supplied), and (v) taking any actions which the other party may reasonably request in connection with the foregoing matters.

11. Foreign Tax Returns. If the parties (or any members of their respective Groups) are required to file (or the parties determine that it is in their best interests to file) a foreign Tax Return for any Taxable period ending on or after the Effective Date that includes at least two Legal Entities, of which one Legal Entity is a member of the Company Group and the other Legal Entity is a member of the LMC Group (or any such Legal Entity of one Group is required or able to file a Tax Return reflecting the Tax Assets of a Legal Entity of the other Group pursuant to a similar or analogous scheme under applicable foreign Tax Law), the parties shall reasonably cooperate with one another to complete such Tax Returns, and to allocate the responsibility for payment of any Taxes or Tax Benefits with respect to such Tax Returns, consistent with the underlying principles of calculation and allocation in this Agreement, with such changes as are necessary to reflect the Tax Laws of the applicable jurisdiction.

12. Binding Effect; Assignment.

(a) General. Except as otherwise provided in Section 12(b) or 23, this Agreement shall be binding upon and shall inure to the benefit of LMC, the Company, and each other party hereto and each other Legal Entity that becomes a party hereto pursuant to Section 12(b) or 23, and this Agreement shall inure to the benefit of, and be binding upon, any successors or assigns of the parties hereto. Except as otherwise provided in Section 12(b) or 23, each of LMC and the Company may assign its right to receive payments under this Agreement but may not assign or delegate any other right or obligation hereunder.

(b) Assignment for Spin-Off Transaction. If LMC effects a spin-off, split-off or other distribution of the shares of a Subsidiary of LMC (such Subsidiary, a "spin-off entity") that is the beneficial owner (as determined pursuant to Rule 13d-3 and Rule 13d-5 under the Exchange Act and any successor regulation) of equity securities of the Company representing at least 80% of the combined voting power and 80% of the value of the total outstanding equity securities of the Company (within the meaning of Section 1504(a)(2) of the Code), and the shares of any series of capital stock of such spin-off entity are registered under Section 12(b) or 12(g) of the Exchange Act, then LMC shall have the right to assign its rights and obligations under this Agreement to the spin-off entity for Taxable periods (or portions thereof) beginning after the effective date of such transaction. Notwithstanding any assignment to the spin-off entity, LMC shall continue to

have all of its rights and obligations under this Agreement with respect to Taxable periods (or portions thereof) ending on or before the effective date of such transaction. The parties agree to cooperate in entering into any agreement reasonably requested to reflect the foregoing assignment of rights and obligations by LMC to the spin-off entity.

13. No Third Party Beneficiaries. Except as provided in Sections 7, 12 and 23, this Agreement is solely for the benefit of LMC and the Company and is not intended to confer upon any other Person any rights or remedies hereunder.

14. Application of Agreement. This Agreement shall be applicable only to Taxable periods of the Company and the members of the Company Group ending on or after the Effective Date and to each Taxable period thereafter.

15. Interpretation. This Agreement is intended to calculate, allocate and settle certain Tax liabilities of the members of the LMC Group and the Company Group, and any situation or circumstance concerning such calculation and allocation that is not specifically contemplated hereby or provided for herein shall be dealt with in a manner consistent with the underlying principles of calculation and allocation in this Agreement.

16. Legal and Accounting Fees. Unless otherwise specified herein, any fees or expenses (including internal expenses) for legal, accounting or other professional services rendered in connection with Tax research relating to the Company Group, the preparation of a Joint Return or any statement relating to any Separate Return Tax Liability or other calculations under this Agreement or the conduct of any Tax Proceeding shall be allocated between LMC and the Company in a manner resulting in LMC and the Company, respectively, bearing a reasonable approximation of the actual amount of such fees or expenses hereunder reasonably related to, and for the benefit of, their respective Groups. The Company shall pay LMC for any fees and expenses allocated to the Company pursuant to this Section 16 within five (5) Business Days after the date the Company receives notice from LMC requesting such payment.

17. Effect of the Agreement. This Agreement shall determine the liability of LMC and the Company to each other as to the matters provided for herein, whether or not such determination is effective for purposes of the Code or state or local Tax Laws, or for financial reporting purposes or for any other purposes.

18. Allocation Among the Company and Its Included Subsidiaries. Nothing herein shall be deemed to preclude or require any allocation of the Separate Return Tax Liability of the Company Group among or between the Company and its Subsidiaries.

19. Modifications. This Agreement shall not be modified or terminated except by a writing duly signed by each of the parties hereto, and no waiver of any provisions of this Agreement shall be effective unless in a writing duly signed by the party sought to be bound, except that any addition of a new party pursuant to Section 12(b) or 23 shall not require a writing signed by any other party.

20. Entire Agreement. This Agreement embodies the entire agreement among the parties hereto with respect to the matters covered hereby and thereby, and all prior written or oral agreements, representations, warranties or covenants previously existing between the parties with respect to such subject matter are cancelled and are not part of this Agreement.

21. Changes in Law.

(a) Any references to the Code or Treasury Regulations, or a law of another jurisdiction, shall be deemed to refer to the relevant provisions of any successor statute or regulation and shall refer to such provisions as in effect from time to time.

(b) If, due to any change in applicable law or regulations or their interpretation by any court of law or other governing body having jurisdiction subsequent to the Effective Date, performance of any provision of this Agreement or any transaction contemplated thereby shall become impracticable or impossible, the parties hereto shall use their commercially reasonable efforts to find and employ an alternative means to achieve the same or substantially the same result as that contemplated by such provision.

22. Notices. All notices, requests, and other communications hereunder shall be in writing and shall be delivered in person, by facsimile (with confirming copy sent by one of the other delivery methods specified herein), by electronic mail, by overnight courier or sent by certified, registered or express air mail, postage prepaid, and shall be deemed given when so delivered in person, or when so received by facsimile, electronic mail or courier, or, if mailed, three (3) calendar days after the date of mailing, as follows:

If to LMC or any member of the LMC Group:

Liberty Media Corporation
12300 Liberty Boulevard
Englewood, Colorado 80112

Attention: Chief Legal Officer
Email: legalnotices@libertymedia.com
Facsimile: (720) 875-5401

If to the Company or any member of the Company Group:

Sirius XM Holdings Inc.
1221 Avenue of the Americas
35th Floor
New York, New York 10017

Attention: Chief Financial Officer
Facsimile: (212) 584-5353

or to such other address as the party to whom notice is given may have previously furnished to the other party in writing in the manner set forth above.

23. Successors.

(a) Successors to the Company. In the event of any merger, consolidation, reorganization, statutory share exchange, conversion of the Company from a corporation to a limited liability company or other legal entity or other transaction affecting the Company, that results in the exchange or conversion of the equity securities of the Company for or into equity securities of (x) the successor to the Company in such transaction (or to the extent applicable, the acquiror of all or substantially all of the Company's businesses) (a "Company Successor") or (y) any Person of which the Company or such successor is a Subsidiary as a result of and after giving effect to such transaction (a "Company Successor Parent"), then (A) for Taxable periods (or portions thereof) beginning at or after the effective time of such transaction, (i) all references herein to the Company, other than in the last sentence of this Section 23(a), shall mean and refer to such Company Successor or Company Successor Parent, as applicable, and (ii) all references herein to any equity securities of the Company shall mean and refer to the equity securities or ownership interests of such Company Successor or Company Successor Parent, as applicable, into which such equity securities shall have been converted (or for which such equity securities shall have been exchanged), and (B) in connection with any such transaction, the Company will cause such Company Successor or Company Successor Parent, as applicable, to become a party to this Agreement, and be bound hereby, as of the effective time of such transaction. For the avoidance of doubt, this Agreement shall continue to be binding upon the Company notwithstanding any change in ownership of the Company.

(b) Successors to LMC.

(i) In the event of any merger, consolidation, reorganization, statutory share exchange, conversion of LMC from a corporation to a limited liability company or other legal entity or other transaction affecting LMC, that results in the exchange or conversion of any class or series of capital stock of LMC for or into equity securities of (x) the successor to LMC in such transaction (or to the extent applicable, the acquiror of all or substantially all of LMC's businesses) (a "LMC Successor") or (y) any Person of which LMC or such successor is a Subsidiary after giving effect to such transaction (a "LMC Successor Parent"), and if (but only if) such LMC Successor or LMC Successor Parent owns, directly or indirectly, the equity securities of the Company that were owned, directly or indirectly, by LMC immediately prior to such transaction, then (A) for Taxable periods (or portions thereof) beginning at or after the effective time of such transaction, (i) all references in this Agreement to LMC, other than in Section 23(b)(ii), shall mean and refer to such LMC Successor or LMC Successor Parent, as applicable, and (ii) all references herein to any class or series of capital stock of LMC shall mean and refer to the equity securities or ownership interests of such LMC Successor or LMC Successor Parent, as applicable, into which such class or series of capital stock of LMC shall have been converted (or for which it shall

have been exchanged), and (B) such LMC Successor or LMC Successor Parent, as applicable, shall become a party to this Agreement, and be bound hereby, as if such Person were a signatory hereto (whether or not such Person signs a counterpart of this Agreement or enters into a joinder agreement or similar instrument with respect hereto).

(ii) Notwithstanding the provisions of clause (i) of this Section 23(b), and without limiting the rights of any LMC Successor or LMC Successor Parent, the Company agrees that following the effective time of a transaction described in clause (i) of this Section 23(b) (a "LMC Successor Transaction") in which LMC continues as a legal entity, and with respect to Joint Returns for Taxable periods beginning prior to the effective time of such LMC Successor Transaction, (a) LMC shall continue to have the authority to act as agent for the members of the Company Group, (b) LMC shall have the authority to file such Joint Returns (or otherwise cause such Joint Returns to be filed) and to make or change any Tax elections (or cause any Tax elections to be made or changed) on behalf of the Company Group, and (c) LMC shall have the right to control Tax Proceedings with respect to any member of the Company Group relating to such Joint Returns, subject to providing the Company with the participation and control rights to which it would otherwise be entitled pursuant to Section 9.

24. Governing Law; Jurisdiction; Waiver of Jury Trial.

(a) This Agreement and the legal relations among the parties hereto will be governed in all respects, including validity, interpretation and effect, by the laws of the State of Delaware applicable to contracts made and performed wholly therein, without giving effect to any choice or conflict of laws provisions or rules that would cause the application of the laws of any other jurisdiction. Each of the parties hereto irrevocably agrees that any legal action or proceeding with respect to this Agreement, and the rights and obligations arising hereunder, or for recognition and enforcement of any judgment in respect of this Agreement, and the rights and obligations arising hereunder brought by the other party hereto or its successors or assigns, shall be brought and determined exclusively in the Delaware Court of Chancery and any state appellate court therefrom within the State of Delaware (or, if the Delaware Court of Chancery declines to accept jurisdiction over a particular matter, any state or federal court within the State of Delaware). Each of the parties hereto hereby irrevocably submits with regard to any such action or proceeding for itself and in respect of its property, generally and unconditionally, to the personal jurisdiction of the aforesaid courts and agrees that it will not bring any action relating to this Agreement or the transactions contemplated hereby in any court other than the aforesaid courts. Each of the parties hereto hereby irrevocably waives, and agrees not to assert as a defense, counterclaim or otherwise, in any action or proceeding with respect to this Agreement (a) any claim that it is not personally subject to the jurisdiction of the above named courts for any reason other than the failure to serve in accordance with Section 22 and this Section 24, (b) any claim that it or its property is exempt or immune from jurisdiction of any such court or from any legal process commenced in such courts (whether through service of notice, attachment prior to judgment, attachment in aid of execution of judgment, execution of judgment or otherwise) and

(c) to the fullest extent permitted by applicable law, any claim that (i) the suit, action or proceeding in such court is brought in an inconvenient forum, (ii) the venue of such suit, action or proceeding is improper or (iii) this Agreement or the subject matter hereof may not be enforced in or by such courts. Process in any such suit, action or proceeding may be served on any party anywhere in the world, whether within or without the jurisdiction of any such court. Without limiting the foregoing, each party agrees that service of process on such party as provided in Section 22 shall be deemed effective service of process on such party.

EACH PARTY HERETO ACKNOWLEDGES AND AGREES THAT ANY CONTROVERSY WHICH MAY ARISE UNDER THIS AGREEMENT IS LIKELY TO INVOLVE COMPLICATED AND DIFFICULT ISSUES, AND, THEREFORE, EACH SUCH PARTY HEREBY IRREVOCABLY AND UNCONDITIONALLY WAIVES TO THE FULLEST EXTENT PERMITTED BY APPLICABLE LAW, ANY RIGHT SUCH PARTY MAY HAVE TO A TRIAL BY JURY IN RESPECT OF ANY ACTION DIRECTLY OR INDIRECTLY ARISING OUT OF, UNDER OR IN CONNECTION WITH OR RELATING TO THIS AGREEMENT. EACH PARTY HERETO CERTIFIES AND ACKNOWLEDGES THAT (A) NO REPRESENTATIVE, AGENT OR ATTORNEY OF ANY OTHER PARTY HERETO HAS REPRESENTED, EXPRESSLY OR OTHERWISE, THAT SUCH OTHER PARTY WOULD NOT, IN THE EVENT OF SUCH ACTION, SEEK TO ENFORCE THE FOREGOING WAIVER, (B) EACH SUCH PARTY UNDERSTANDS AND HAS CONSIDERED THE IMPLICATIONS OF THIS WAIVER, (C) EACH SUCH PARTY MAKES THIS WAIVER VOLUNTARILY, AND (D) EACH SUCH PARTY HAS BEEN INDUCED TO ENTER INTO THIS AGREEMENT BY, AMONG OTHER THINGS, THE MUTUAL WAIVERS AND CERTIFICATIONS IN THIS SECTION 24(b).

25. **Termination.** This Agreement shall terminate at such time as all obligations and liabilities of the parties hereto have been satisfied. The obligations and liabilities of the parties arising under this Agreement shall continue in full force and effect until all such obligations have been met and such liabilities have been paid in full, whether by expiration of time, operation of law, or otherwise. The obligations and liabilities of each party are made for the benefit of, and shall be enforceable by, the other parties and their successors and permitted assigns.

26. **Headings; Interpretation.** The headings used in this Agreement are for convenience only and shall not in any way affect the meaning or interpretation of any provision hereof. When a reference is made in this Agreement to a "Section" or "Sections," such reference shall be to a Section or Sections of this Agreement unless otherwise indicated. The words "include," "includes," "included," and "including," when used herein shall be deemed in each case to be followed by the words "without limitation." The words "hereof," "herein," "hereby," and "hereunder" and words of similar import when used in this Agreement shall refer to this Agreement as a whole and not to any particular provision of this Agreement. The words "date hereof" shall refer to the date of this Agreement. The term "or" is not exclusive and means "and/or" unless the context in which such phrase is used shall dictate otherwise. The word "extent" in the phrase "to the extent" shall mean the degree to which a subject or other such thing extends, and such phrase shall not mean simply "if" unless the context in which such phrase is used shall dictate otherwise. The definitions contained in this Agreement are applicable to the singular as

well as the plural forms of such terms and to the masculine as well as to the feminine and neuter genders of such term. Whenever the context may require, any pronoun shall include the corresponding masculine, feminine and neuter forms.

27. **Counterparts.** This Agreement may be executed in multiple counterparts each of which shall be deemed an original, but all of which shall together constitute one Agreement.

IN WITNESS WHEREOF, each of the parties have caused this Agreement to be executed by its respective duly authorized officer as of the date first set forth above.

LIBERTY MEDIA CORPORATION
for itself and on behalf of each LMC Affiliate

BY: /s/ Tim Lenneman
Tim Lenneman
Senior Vice President

SIRIUS XM HOLDINGS INC.
for itself and on behalf of each Company Affiliate

BY: /s/ Thomas Barry
Thomas Barry
Senior Vice President

COEX-
8.32

Exhibit 21.1

SIRIUS XM HOLDINGS INC.
SUBSIDIARIES

Sirius XM Radio Inc.

Automatic Labs Inc.
Satellite CD Radio LLC
Sirius XM Connected Vehicle Services Inc.
Sirius XM Connected Vehicle Services Holdings Inc.
SXM CVS Canada Inc.
XM 1500 Eckington LLC
XM Emall Inc.
XM Investment LLC
XM Radio LLC
Pandora Media, LLC
AdsWizz Inc.
Stitcher Media LLC
Audios Ventures Inc. (dba Simplecast)

COEX-
8.32

Exhibit 23.1

Consent of Independent Registered Public Accounting Firm

The Board of Directors
Sirius XM Holdings Inc.:

We consent to the incorporation by reference in the registration statements No. 333-229468, 333-228088, 333-152574, 333-159206, 333-160386, 333-179600, 333-204302, and 333-205409 of Sirius XM Holdings Inc. of our reports dated February 2, 2021, with respect to the consolidated balance sheets of Sirius XM Holdings Inc. and subsidiaries as of December 31, 2020 and 2019, the related consolidated statements of comprehensive income, stockholders' equity (deficit), and cash flows for each of the years in the three-year period ended December 31, 2020, and the related notes and financial statement schedule II (collectively, the consolidated financial statements), and the effectiveness of internal control over financial reporting as of December 31, 2020, which reports appear in the December 31, 2020 annual report on Form 10-K of Sirius XM Holdings Inc.

Our report on the consolidated financial statements refers to a change in the method of accounting for leases effective January 1, 2019 due to the adoption of Accounting Standard Update (ASU) 2016-02 and all related amendments, which established Accounting Standard Codification (ASC) Topic 842, *Leases*.

/s/ KPMG LLP

New York, New York
February 2, 2021

COEX-
8.32

Exhibit 31.1

CERTIFICATION OF CHIEF EXECUTIVE OFFICER

I, Jennifer C. Witz, certify that:

1. I have reviewed this Annual Report on Form 10-K for the fiscal year ended December 31, 2020 of Sirius XM Holdings Inc.;
2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;
3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this report;
4. The registrant's other certifying officer and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the registrant and have:
   (a) Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;
   (b) Designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;
   (c) Evaluated the effectiveness of the registrant's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and
   (d) Disclosed in this report any change in the registrant's internal control over financial reporting that occurred during the registrant's most recent fiscal quarter (the registrant's fourth fiscal quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, the registrant's internal control over financial reporting; and
5. The registrant's other certifying officer and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant's auditors and the audit committee of the registrant's board of directors (or persons performing the equivalent functions):
   (a) all significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant's ability to record, process, summarize and report financial information; and
   (b) any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal control over financial reporting.

By: /s/ JENNIFER C. WITZ

Jennifer C. Witz
Chief Executive Officer and Director
(Principal Executive Officer)

February 2, 2021

COEX-
8.32

Exhibit 31.2

CERTIFICATION OF CHIEF FINANCIAL OFFICER

I, Sean S. Sullivan, certify that:

1. I have reviewed this Annual Report on Form 10-K for the fiscal year ended December 31, 2020 of Sirius XM Holdings Inc.;
2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;
3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this report;
4. The registrant's other certifying officer and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the registrant and have:
   (a) Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;
   (b) Designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;
   (c) Evaluated the effectiveness of the registrant's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and
   (d) Disclosed in this report any change in the registrant's internal control over financial reporting that occurred during the registrant's most recent fiscal quarter (the registrant's fourth fiscal quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, the registrant's internal control over financial reporting; and
5. The registrant's other certifying officer and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant's auditors and the audit committee of the registrant's board of directors (or persons performing the equivalent functions):
   (a) all significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant's ability to record, process, summarize and report financial information; and
   (b) any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal control over financial reporting.

By: /s/ SEAN S. SULLIVAN

Sean S. Sullivan
Executive Vice President and Chief Financial Officer
(Principal Financial Officer)

February 2, 2021

COEX-
8.32

Exhibit 32.1

CERTIFICATION PURSUANT TO
18 U.S.C. SECTION 1350,
AS ADOPTED PURSUANT TO
SECTION 906 OF THE SARBANES-OXLEY
ACT OF 2002

In connection with the Annual Report of Sirius XM Holdings Inc. (the "Company") on Form 10-K for the fiscal year ended December 31, 2020 as filed with the Securities and Exchange Commission on the date hereof (the "Report"), I, Jennifer C. Witz, Chief Executive Officer of the Company, certify, pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002, that:

(1) The Report fully complies with the requirements of Section 13(a) or 15(d) of the Securities Exchange Act of 1934; and

(2) The information contained in the Report fairly presents, in all material respects, the financial condition and results of operations of the Company.

By: /s/ JENNIFER C. WITZ

Jennifer C. Witz
Chief Executive Officer and Director
(Principal Executive Officer)

February 2, 2021

A signed original of this written statement required by Section 906, or other document authenticating, acknowledging, or otherwise adopting the signature that appears in typed form within the electronic version of this written statement required by Section 906, has been provided to the Company and will be retained by the Company and furnished to the Securities and Exchange Commission or its staff upon request.

COEX-
8.32

Exhibit 32.2

CERTIFICATION PURSUANT TO
18 U.S.C. SECTION 1350,
AS ADOPTED PURSUANT TO
SECTION 906 OF THE SARBANES-OXLEY
ACT OF 2002

In connection with the Annual Report of Sirius XM Holdings Inc. (the "Company") on Form 10-K for the fiscal year ended December 31, 2020 as filed with the Securities and Exchange Commission on the date hereof (the "Report"), I, Sean S. Sullivan, Executive Vice President and Chief Financial Officer of the Company, certify, pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002, that:

(1) The Report fully complies with the requirements of Section 13(a) or 15(d) of the Securities Exchange Act of 1934; and

(2) The information contained in the Report fairly presents, in all material respects, the financial condition and results of operations of the Company.

By: /s/ SEAN S. SULLIVAN

Sean S. Sullivan
Executive Vice President and Chief Financial Officer
(Principal Financial Officer)

February 2, 2021

A signed original of this written statement required by Section 906, or other document authenticating, acknowledging, or otherwise adopting the signature that appears in typed form within the electronic version of this written statement required by Section 906, has been provided to the Company and will be retained by the Company and furnished to the Securities and Exchange Commission or its staff upon request.

COEX-
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UNITED STATES
SECURITIES AND EXCHANGE COMMISSION
WASHINGTON, D.C. 20549

FORM 10-Q

☑ **QUARTERLY REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934**

FOR THE QUARTERLY PERIOD ENDED JUNE 30, 2021
OR

☐ **TRANSITION REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934**

FOR THE TRANSITION PERIOD FROM _____ TO _____
COMMISSION FILE NUMBER 001-34295

SIRIUS XM HOLDINGS INC.

(Exact name of registrant as specified in its charter)

Delaware	**38-3916511**
(State or other jurisdiction of incorporation or organization)	*(I.R.S. Employer Identification No.)*

1221 Avenue of the Americas, 35th Floor, New York, NY
(Address of Principal Executive Offices)
10020
(Zip Code)

Registrant's telephone number, including area code: (212) 584-5100
Former name, former address and former fiscal year, if changed since last report: Not Applicable
Securities registered pursuant to Section 12(b) of the Act:

Title of each class	Trading Symbol(s)	Name of exchange on which registered
Common stock, $0.001 par value	**SIRI**	**NASDAQ Global Select Market**

Indicate by check mark whether the registrant (1) has filed all reports required to be filed by Section 13 or 15(d) of the Securities Exchange Act of 1934 during the preceding 12 months (or for such shorter period that the registrant was required to file such reports) and (2) has been subject to such filing requirements for the past 90 days. Yes ☑ No ☐

Indicate by check mark whether the registrant has submitted electronically every Interactive Data File required to be submitted pursuant to Rule 405 of Regulation S-T during the preceding 12 months (or for such shorter period that the registrant was required to submit such files). Yes ☑ No ☐

Indicate by check mark whether the registrant is a large accelerated filer, an accelerated filer, a non-accelerated filer, a smaller reporting company or an emerging growth company. See the definitions of "large accelerated filer," "accelerated filer", "smaller reporting company" and "emerging growth company" in Rule 12b-2 of the Exchange Act.:

Large accelerated filer	☑	Accelerated filer	☐	Non-accelerated filer	☐
Smaller reporting company	☐	Emerging growth company	☐		

If an emerging growth company, indicate by check mark if the registrant has elected not to use the extended transition period for complying with any new or revised financial accounting standards provided pursuant to Section 13(a) of the Exchange Act. ☐

Indicate by check mark whether the registrant is a shell company (as defined in Rule 12b-2 of the Act). Yes ☐ No ☑

Indicate the number of shares outstanding of each of the issuer's classes of common stock, as of the latest practicable date.

(Class)	(Outstanding as of July 23, 2021)
Common stock, $0.001 par value	**4,050,435,824 shares**

SIRIUS XM HOLDINGS INC. AND SUBSIDIARIES
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SIRIUS XM HOLDINGS INC. AND SUBSIDIARIES
CONSOLIDATED STATEMENTS OF COMPREHENSIVE INCOME
(UNAUDITED)

(in millions, except per share data)	For the Three Months Ended June 30,		For the Six Months Ended June 30,	
	2021	**2020**	**2021**	**2020**
Revenue:				
Subscriber revenue	$ 1,641	$ 1,578	$ 3,252	$ 3,163
Advertising revenue	429	236	783	521
Equipment revenue	51	25	108	66
Other revenue	38	35	74	76
Total revenue	2,159	1,874	4,217	3,826
Operating expenses:				
Cost of services:				
Revenue share and royalties	662	587	1,303	1,157
Programming and content	136	110	265	228
Customer service and billing	128	122	244	240
Transmission	52	43	101	83
Cost of equipment	4	4	9	8
Subscriber acquisition costs	89	48	175	147
Sales and marketing	240	217	456	442
Engineering, design and development	65	61	130	132
General and administrative	130	119	251	226
Depreciation and amortization	131	124	263	256
Impairment, restructuring and acquisition costs	(136)	24	108	24
Total operating expenses	1,501	1,459	3,305	2,943
Income from operations	658	415	912	883
Other (expense) income:				
Interest expense	(103)	(102)	(203)	(201)
Other income	5	4	8	8
Total other (expense) income	(98)	(98)	(195)	(193)
Income before income taxes	560	317	717	690
Income tax expense	(127)	(74)	(65)	(154)
Net income	$ 433	$ 243	$ 652	$ 536
Foreign currency translation adjustment, net of tax	7	10	12	(15)
Total comprehensive income	$ 440	$ 253	$ 664	$ 521
Net income per common share:				
Basic	$ 0.11	$ 0.06	$ 0.16	$ 0.12
Diluted	$ 0.10	$ 0.05	$ 0.16	$ 0.12
Weighted average common shares outstanding:				
Basic	4,079	4,369	4,108	4,387
Diluted	4,163	4,457	4,193	4,487

See accompanying notes to the unaudited consolidated financial statements.

SIRIUS XM HOLDINGS INC. AND SUBSIDIARIES
CONSOLIDATED BALANCE SHEETS

(in millions, except per share data)	June 30, 2021	December 31, 2020
ASSETS	(unaudited)	
Current assets:		
Cash and cash equivalents	$ 1,124	$ 71
Receivables, net	654	672
Inventory, net	5	10
Related party current assets	11	20
Prepaid expenses and other current assets	335	194
Total current assets	2,129	967
Property and equipment, net	1,405	1,629
Intangible assets, net	3,263	3,340
Goodwill	3,150	3,122
Related party long-term assets	550	531
Deferred tax assets	111	111
Operating lease right-of-use assets	379	427
Other long-term assets	214	206
Total assets	$ 11,201	$ 10,333
LIABILITIES AND STOCKHOLDERS' EQUITY (DEFICIT)		
Current liabilities:		
Accounts payable and accrued expenses	$ 1,132	$ 1,223
Accrued interest	173	174
Current portion of deferred revenue	1,583	1,721
Current maturities of debt	998	1
Operating lease current liabilities	51	48
Total current liabilities	3,937	3,167
Long-term deferred revenue	110	118
Long-term debt	8,835	8,499
Deferred tax liabilities	307	266
Operating lease liabilities	388	419
Other long-term liabilities	139	149
Total liabilities	13,716	12,618
Commitments and contingencies (Note 16)		
Stockholders' equity (deficit):		
Common stock, par value $0.001 per share; 9,000 shares authorized; 4,059 and 4,176 shares issued; 4,058 and 4,173 shares outstanding at June 30, 2021 and December 31, 2020, respectively	4	4
Accumulated other comprehensive income, net of tax	27	15
Additional paid-in capital	—	—
Treasury stock, at cost; 1 and 3 shares of common stock at June 30, 2021 and December 31, 2020, respectively	(7)	(19)
Accumulated deficit	(2,539)	(2,285)
Total stockholders' equity (deficit)	(2,515)	(2,285)
Total liabilities and stockholders' equity (deficit)	$ 11,201	$ 10,333

See accompanying notes to the unaudited consolidated financial statements.

SIRIUS XM HOLDINGS INC. AND SUBSIDIARIES
CONSOLIDATED STATEMENT OF STOCKHOLDERS' EQUITY (DEFICIT)
(UNAUDITED)

For the Six Months Ended June 30, 2021

(in millions)	Common Stock		Accumulated Other Comprehensive Income	Additional Paid-in Capital	Treasury Stock		Accumulated Deficit	Total Stockholders' Equity (Deficit)
	Shares	Amount			Shares	Amount		
Balance at December 31, 2020	4,176	$ 4	$ 15	$ —	3	$ (19)	$ (2,285)	$ (2,285)
Comprehensive income, net of tax	—	—	12	—	—	—	652	664
Share-based payment expense	—	—	—	104	—	—	—	104
Exercise of stock options and vesting of restricted stock units	23	—	—	6	—	—	—	6
Withholding taxes on net share settlement of stock-based compensation	—	—	—	(43)	—	—	—	(43)
Cash dividends paid on common stock, $0.029282 per share	—	—	—	(71)	—	—	(50)	(121)
Issuance of restricted stock in connection with business acquisition	—	—	—	4	—	—	—	4
Common stock repurchased	—	—	—	—	138	(844)	—	(844)
Common stock retired	(140)	—	—	—	(140)	856	(856)	—
Balance at June 30, 2021	4,059	$ 4	$ 27	$ —	1	$ (7)	$ (2,539)	$ (2,515)

See accompanying notes to the unaudited consolidated financial statements.

SIRIUS XM HOLDINGS INC. AND SUBSIDIARIES
CONSOLIDATED STATEMENT OF STOCKHOLDERS' EQUITY (DEFICIT)
(UNAUDITED)

For the Three Months Ended June 30, 2021

(in millions)	Common Stock		Accumulated Other Comprehensive Income	Additional Paid-in Capital	Treasury Stock		Accumulated Deficit	Total Stockholders' Equity (Deficit)
	Shares	Amount			Shares	Amount		
Balance at March 31, 2021	4,107	$ 4	$ 20	$ —	2	$ (13)	$ (2,614)	$ (2,603)
Comprehensive income, net of tax	—	—	7	—	—	—	433	440
Share-based payment expense	—	—	—	49	—	—	—	49
Exercise of stock options and vesting of restricted stock units	6	—	—	6	—	—	—	6
Withholding taxes on net share settlement of stock-based compensation	—	—	—	(23)	—	—	—	(23)
Cash dividends paid on common stock, $0.014641 per share	—	—	—	(36)	—	—	(24)	(60)
Issuance of restricted stock in connection with business acquisition	—	—	—	4	—	—	—	4
Common stock repurchased	—	—	—	—	53	(328)	—	(328)
Common stock retired	(54)	—	—	—	(54)	334	(334)	—
Balance at June 30, 2021	4,059	$ 4	$ 27	$ —	1	$ (7)	$ (2,539)	$ (2,515)

See accompanying notes to the unaudited consolidated financial statements.

SIRIUS XM HOLDINGS INC. AND SUBSIDIARIES
CONSOLIDATED STATEMENT OF STOCKHOLDERS' EQUITY (DEFICIT)
(UNAUDITED)

For the Six Months Ended June 30, 2020

(in millions)	Common Stock		Accumulated Other Comprehensive Income (Loss)	Additional Paid-in Capital	Treasury Stock		Accumulated Deficit	Total Stockholders' Equity (Deficit)
	Shares	Amount			Shares	Amount		
Balance at December 31, 2019	4,412	$ 4	$ 8	$ 395	—	$ —	$ (1,143)	$ (736)
Comprehensive (loss) income, net of tax	—	—	(15)	—	—	—	536	521
Share-based payment expense	—	—	—	115	—	—	—	115
Exercise of stock options and vesting of restricted stock units	11	—	—	—	—	—	—	—
Withholding taxes on net share settlement of stock-based compensation	—	—	—	(43)	—	—	—	(43)
Cash dividends paid on common stock, $0.02662 per share	—	—	—	(117)	—	—	—	(117)
Common stock repurchased	—	—	—	—	70	(408)	—	(408)
Common stock retired	(68)	—	—	(399)	(68)	399	—	—
Balance at June 30, 2020	4,355	$ 4	$ (7)	$ (49)	2	$ (9)	$ (607)	$ (668)

See accompanying notes to the unaudited consolidated financial statements.

SIRIUS XM HOLDINGS INC. AND SUBSIDIARIES
CONSOLIDATED STATEMENT OF STOCKHOLDERS' EQUITY (DEFICIT)
(UNAUDITED)

For the Three Months Ended June 30, 2020

(in millions)	Common Stock		Accumulated Other Comprehensive (Loss) Income	Additional Paid-in Capital	Treasury Stock		Accumulated Deficit	Total Stockholders' Equity (Deficit)
	Shares	Amount			Shares	Amount		
Balance at March 31, 2020	4,379	$ 4	$ (17)	$ 116	—	$ —	$ (850)	$ (747)
Comprehensive income, net of tax	—	—	10	—	—	—	243	253
Share-based payment expense	—	—	—	56	—	—	—	56
Exercise of stock options and vesting of restricted stock units	3	—	—	—	—	—	—	—
Withholding taxes on net share settlement of stock-based compensation	—	—	—	(7)	—	—	—	(7)
Cash dividends paid on common stock, $0.01331 per share	—	—	—	(58)	—	—	—	(58)
Common stock repurchased	—	—	—	—	29	(165)	—	(165)
Common stock retired	(27)	—	—	(156)	(27)	156	—	—
Balance at June 30, 2020	4,355	$ 4	$ (7)	$ (49)	2	$ (9)	$ (607)	$ (668)

See accompanying notes to the unaudited consolidated financial statements.

SIRIUS XM HOLDINGS INC. AND SUBSIDIARIES
CONSOLIDATED STATEMENTS OF CASH FLOWS
(UNAUDITED)

(in millions)	For the Six Months Ended June 30, 2021	2020
Cash flows from operating activities:		
Net income	$ 652	$ 536
Adjustments to reconcile net income to net cash provided by operating activities:		
Depreciation and amortization	263	256
Non cash impairment and restructuring costs	245	24
Non-cash interest expense, net of amortization of premium	10	10
Provision for doubtful accounts	24	38
Amortization of deferred income related to equity method investment	—	(1)
Loss on unconsolidated entity investments, net	3	3
Dividend received from unconsolidated entity investment	1	1
(Gain) loss on other investments	(4)	1
Share-based payment expense	98	107
Deferred income tax (benefit) expense	37	116
Amortization of right-of-use assets	28	28
Changes in operating assets and liabilities:		
Receivables	(11)	134
Inventory	5	(4)
Related party, net	11	9
Prepaid expenses and other current assets	(141)	(13)
Other long-term assets	(4)	10
Accounts payable and accrued expenses	(99)	(136)
Accrued interest	(1)	(3)
Deferred revenue	(145)	(105)
Operating lease liabilities	(26)	(26)
Other long-term liabilities	(18)	22
Net cash provided by operating activities	928	1,007
Cash flows from investing activities:		
Additions to property and equipment	(164)	(149)
Purchases of other investments	(3)	(7)
Acquisition of business, net of cash acquired	(14)	(28)
Investments in related parties and other equity investees	(11)	(84)
Repayment from related party	2	3
Net cash used in investing activities	(190)	(265)
Cash flows from financing activities:		
Proceeds from exercise of stock options	6	—
Taxes paid from net share settlements for stock-based compensation	(43)	(43)
Revolving credit facility, net of deferred financing costs	(649)	—
Proceeds from long-term borrowings, net of costs	1,976	1,483
Principal payments of long-term borrowings	(2)	(5)
Common stock repurchased and retired	(856)	(399)
Dividends paid	(121)	(117)
Net cash provided by financing activities	311	919
Net increase in cash, cash equivalents and restricted cash	1,049	1,661
Cash, cash equivalents and restricted cash at beginning of period [1]	83	120
Cash, cash equivalents and restricted cash at end of period [1]	$ 1,132	$ 1,781

See accompanying notes to the unaudited consolidated financial statements.

SIRIUS XM HOLDINGS INC. AND SUBSIDIARIES
CONSOLIDATED STATEMENTS OF CASH FLOWS - Continued
(UNAUDITED)

(in millions)	For the Six Months Ended June 30, 2021	2020
Supplemental Disclosure of Cash and Non-Cash Flow Information		
Cash paid during the period for:		
Interest, net of amounts capitalized	$ 193	$ 194
Income taxes paid	$ 34	$ 10
Non-cash investing and financing activities:		
Treasury stock not yet settled	$ 12	$ (9)
Accumulated other comprehensive income (loss), net of tax	$ 12	$ (15)

(1) The following table reconciles cash, cash equivalents and restricted cash per the statement of cash flows to the balance sheet. The restricted cash balances are primarily due to letters of credit which have been issued to the landlords of leased office space. The terms of the letters of credit primarily extend beyond one year.

(in millions)	June 30, 2021	December 31, 2020	June 30, 2020	December 31, 2019
Cash and cash equivalents	$ 1,124	$ 71	$ 1,770	$ 106
Restricted cash included in Other long-term assets	8	12	11	14
Total cash, cash equivalents and restricted cash at end of period	$ 1,132	$ 83	$ 1,781	$ 120

See accompanying notes to the unaudited consolidated financial statements.

SIRIUS XM HOLDINGS INC. AND SUBSIDIARIES
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS
(UNAUDITED)
(Dollars and shares in millions, except per share amounts)

(1) Business & Basis of Presentation

This Quarterly Report on Form 10-Q presents information for Sirius XM Holdings Inc. and its subsidiaries (collectively "Holdings"). The terms "Holdings," "we," "us," "our," and "our company" as used herein, and unless otherwise stated or indicated by context, refer to Sirius XM Holdings Inc. and its subsidiaries. "Sirius XM" refers to our wholly owned subsidiary Sirius XM Radio Inc. and its subsidiaries. "Pandora" refers to Sirius XM's wholly owned subsidiary Pandora Media, LLC and its subsidiaries. Holdings has no operations independent of Sirius XM and Pandora.

Business

We operate two complementary audio entertainment businesses - our Sirius XM business and our Pandora business.

Sirius XM

Our Sirius XM business features music, sports, entertainment, comedy, talk, news, traffic and weather channels and other content, as well as podcasts and infotainment services, in the United States on a subscription fee basis. Sirius XM's premier content bundles include live, curated and certain exclusive and on demand programming. The Sirius XM service is distributed through our two proprietary satellite radio systems and streamed via applications for mobile devices, home devices and other consumer electronic equipment. Satellite radios are primarily distributed through automakers, retailers and our website. Our Sirius XM service is also available through our user interface, which we call "360L," that combines our satellite and streaming services into a single, cohesive in-vehicle entertainment experience.

The primary source of revenue from our Sirius XM business is subscription fees, with most of our customers subscribing to monthly, quarterly, semi-annual or annual plans. We also derive revenue from advertising on select non-music channels, which is sold under the SXM Media brand, direct sales of our satellite radios and accessories, and other ancillary services. As of June 30, 2021, our Sirius XM business had approximately 34.5 million subscribers.

In addition to our audio entertainment businesses, we provide connected vehicle services to several automakers. These services are designed to enhance the safety, security and driving experience of consumers. We also offer a suite of data services that includes graphical weather, fuel prices, sports schedules and scores and movie listings, a traffic information service that includes information as to road closings, traffic flow and incident data to consumers with compatible in-vehicle navigation systems, and real-time weather services in vehicles, boats and planes.

In May 2020, we terminated the Automatic Labs Inc. ("Automatic") service, which was part of our connected vehicle services business. Automatic operated a service for consumers and auto dealers and offered an install-it-yourself adapter and mobile application, which transformed older vehicles into connected vehicles. During the three and six months ended June 30, 2020, we recorded $24 of restructuring expenses in our unaudited consolidated statements of comprehensive income related to this termination of the service. Refer to Note 4 for more information.

Sirius XM also holds a 70% equity interest and 33% voting interest in Sirius XM Canada Holdings Inc. ("Sirius XM Canada"). Sirius XM Canada's subscribers are not included in our subscriber count or subscriber-based operating metrics.

Pandora

Our Pandora business operates a music, comedy and podcast streaming discovery platform, offering a personalized experience for each listener wherever and whenever they want to listen, whether through mobile devices, car speakers or connected devices. Pandora enables listeners to create personalized stations and playlists, discover new content, hear artist- and expert-curated playlists, podcasts and select Sirius XM content as well as search and play songs and albums on-demand. Pandora is available as (1) an ad-supported radio service, (2) a radio subscription service (Pandora Plus) and (3) an on-demand subscription service (Pandora Premium). As of June 30, 2021, Pandora had approximately 6.6 million subscribers.

The majority of revenue from our Pandora business is generated from advertising on our Pandora ad-supported radio service which are sold under the SXM Media brand. We also derive subscription revenue from our Pandora Plus and Pandora Premium subscribers.

Our Pandora business also sells advertising on audio platforms and in podcasts unaffiliated with us. Pandora has an arrangement with SoundCloud Holdings, LLC ("SoundCloud") to be its exclusive US ad sales representative. Through this arrangement, Pandora is able to offer advertisers the ability to execute campaigns in the US across the Pandora and SoundCloud listening platforms. We also have arrangements to serve as the ad sales representative for certain podcasts. In addition, through AdsWizz Inc., Pandora provides a comprehensive digital audio and programmatic advertising technology platform, which connects audio publishers and advertisers with a variety of ad insertion, campaign trafficking, yield optimization, programmatic buying, marketplace and podcast monetization solutions.

On February 10, 2020, Sirius XM invested $75 in SoundCloud. SoundCloud is a next-generation music entertainment company, powered by an ecosystem of artists, listeners, and curators on the pulse of what's new, now and next in culture. SoundCloud's platform enables its users to upload, promote, share and create audio entertainment. The minority investment complements the existing ad sales relationship between SoundCloud and Pandora. Refer to Note 12 for more information on this investment.

On June 16, 2020, Sirius XM acquired Simplecast for $28 in cash. Simplecast is a podcast management and analytics platform. Refer to Note 3 for more information on this acquisition.

On October 16, 2020, Sirius XM acquired certain assets and liabilities of Stitcher from The E.W. Scripps Company and certain of its subsidiaries ("Scripps") for total consideration of $302, which included $266 in cash and $36 related to the acquisition date fair value of contingent consideration. As of June 30, 2021, we will potentially make up to $49 in additional payments to Scripps related to the contingent consideration based on Stitcher's 2020 results and its achievement of certain financial metrics in 2021. The acquisition of Stitcher, in conjunction with Simplecast, created a full-service platform for podcast creators, publishers and advertisers. Refer to Note 3 for more information on this acquisition.

Liberty Media

As of June 30, 2021, Liberty Media Corporation ("Liberty Media") beneficially owned, directly and indirectly, approximately 78% of the outstanding shares of our common stock. As a result, we are a "controlled company" for the purposes of the NASDAQ corporate governance requirements.

Basis of Presentation

The accompanying unaudited consolidated financial statements of Holdings have been prepared in accordance with U.S. generally accepted accounting principles ("GAAP"). All significant intercompany transactions have been eliminated in consolidation. Certain numbers in our prior period consolidated financial statements and footnotes have been reclassified or consolidated to conform to our current period presentation.

In the opinion of our management, all normal recurring adjustments necessary for a fair presentation of our unaudited consolidated financial statements as of June 30, 2021 and for the three and six months ended June 30, 2021 and 2020 have been made.

Interim results are not necessarily indicative of the results that may be expected for a full year. This Quarterly Report on Form 10-Q should be read together with our Annual Report on Form 10-K for the year ended December 31, 2020, which was filed with the SEC on February 2, 2021.

Public companies are required to disclose certain information about their reportable operating segments. Operating segments are defined as significant components of an enterprise for which separate financial information is available and is evaluated on a regular basis by the chief operating decision maker in deciding how to allocate resources to an individual segment and in assessing performance of the segment. We have determined that we have two reportable segments as our chief

operating decision maker, our Chief Executive Officer, assesses performance and allocates resources based on the financial results of these segments. Refer to Note 18 for information related to our segments.

We have evaluated events subsequent to the balance sheet date and prior to the filing of this Quarterly Report on Form 10-Q for the three and six months ended June 30, 2021 and have determined that no events have occurred that would require adjustment to our unaudited consolidated financial statements. For a discussion of subsequent events that do not require adjustment to our unaudited consolidated financial statements refer to Note 19.

Use of Estimates

The preparation of financial statements in conformity with GAAP requires management to make estimates and assumptions that affect the amounts reported in the financial statements and footnotes. Estimates, by their nature, are based on judgment and available information. Actual results could differ materially from those estimates. Significant estimates inherent in the preparation of the accompanying unaudited consolidated financial statements include asset impairment, depreciable lives of our satellites, share-based payment expense and income taxes.

(2) Summary of Significant Accounting Policies

Fair Value Measurements

For assets and liabilities required to be reported at fair value, GAAP provides a hierarchy that prioritizes inputs to valuation techniques used to measure fair value into three broad levels. Level 1 inputs are based on unadjusted quoted prices in active markets for identical instruments. Level 2 inputs are inputs, other than quoted market prices included within Level 1, that are observable for the asset or liability, either directly or indirectly. Level 3 inputs are unobservable inputs for the asset or liability. As of June 30, 2021 and December 31, 2020, the carrying amounts of cash and cash equivalents, receivables and accounts payable approximated fair value due to the short-term nature of these instruments.

Our liabilities measured at fair value were as follows:

	June 30, 2021				December 31, 2020			
	Level 1	Level 2	Level 3	Total Fair Value	Level 1	Level 2	Level 3	Total Fair Value
Liabilities:								
Debt [(a)]	—	$ 10,308	—	$ 10,308	—	$ 9,011	—	$ 9,011

(a) The fair value for non-publicly traded debt is based upon estimates from a market maker and brokerage firm. Refer to Note 13 for information related to the carrying value of our debt as of June 30, 2021 and December 31, 2020.

Accumulated Other Comprehensive Income (Loss)

Accumulated other comprehensive income of $27 was primarily comprised of the cumulative foreign currency translation adjustments related to our investment in and loan to Sirius XM Canada (refer to Note 12 for additional information). During the three and six months ended June 30, 2021, we recorded foreign currency translation adjustment income of $7 and $12, respectively, net of tax expense of $2 and $4, respectively. During the three and six months ended June 30, 2020, we recorded foreign currency translation adjustment income (loss) of $10 and $(15), respectively, net of a tax (expense) benefit of $(3) and $5, respectively.

SIRIUS XM HOLDINGS INC. AND SUBSIDIARIES
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS - Continued
(UNAUDITED)
(Dollars and shares in millions, except per share amounts)

(3) Acquisitions

Stitcher

On October 16, 2020, Sirius XM acquired certain assets and liabilities of Stitcher from Scripps for $266 in cash, which amount includes net working capital adjustments. The total purchase consideration of $302 includes $36 related to the acquisition date fair value of the contingent consideration. As of June 30, 2021, we will potentially make up to $49 in additional payments to Scripps related to the contingent consideration based on Stitcher's 2020 results and its achievement of certain financial metrics in 2021. The fair value of the contingent consideration was determined using a probability-weighted cash flow model and will be remeasured to fair value at each subsequent reporting period. Stitcher is included in our Pandora reporting unit.

The table below summarizes the fair value of the assets acquired and liabilities assumed as of the acquisition date:

Acquired Assets:	
Receivables, net	$
Prepaid expenses and other current assets	
Property and equipment	
Intangible assets	
Goodwill	
Operating lease right-of-use assets	
Total assets	$
Assumed Liabilities:	
Accounts payable and accrued expenses	$
Deferred revenue	
Operating lease current liabilities	
Operating lease liabilities	
Total liabilities	$
Total consideration	$

The Stitcher acquisition was accounted for using the acquisition method of accounting and was financed through borrowings under our Credit Facility.

Simplecast

On June 16, 2020, Sirius XM acquired Simplecast for $28 in cash. Simplecast is a podcast management and analytics platform. Simplecast complements AdsWizz's advertising technology platform, allowing the company to offer podcasters of all sizes a powerful, comprehensive solution for publishing, analytics, distribution and advertising sales, and is included in the Pandora reporting unit. The Simplecast acquisition was accounted for using the acquisition method of accounting. We recognized goodwill of $17, amortizable intangible assets of $12, other assets of less than $1 and deferred tax liabilities of $1.

Other acquisitions

On April 23, 2021, we completed a small acquisition for total consideration of $27 which includes $20 in cash, a $3 deferred cash payment and $4 in restricted stock units. We recognized goodwill of $22 and other assets of $5.

Acquisition related costs of $3 were recognized for the three and six months ended June 30, 2021.

SIRIUS XM HOLDINGS INC. AND SUBSIDIARIES
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS - Continued
(UNAUDITED)
(Dollars and shares in millions, except per share amounts)

(4) Restructuring Costs

During the six months ended June 30, 2021, we evaluated our office space needs and, as a result of such analysis, surrendered certain office leases primarily in New York, New York and Oakland, California. We assessed the recoverability of the carrying value of the operating lease right of use assets related to these locations. Based on that assessment, the carrying values of the assets were not recoverable and we recorded an impairment of $18 to reduce the carrying value of the assets to their fair values. Additionally, we accrued expenses of $6 which we will not recognize any future economic benefits and wrote off leasehold improvements of $1. The fair values of the assets were determined using a discounted cash flow model based on management's assumptions regarding the ability to sublease the locations and the remaining term of the leases. The total charge of $25 was recorded to Impairment, restructuring and acquisition costs in our unaudited consolidated statement of comprehensive income for the six months ended June 30, 2021. There were no restructuring charges recorded during the three months ended June 30, 2021.

In May 2020, we terminated the Automatic service, which was part of our connected services business. During the three and six months ended June 30, 2020, we recorded $24 of restructuring expenses primarily related to the write down of property and equipment, definite lived intangible assets and certain other assets in Acquisition and restructuring costs in our unaudited consolidated statements of comprehensive income. The termination of the Automatic service does not meet the requirements to be reported as a discontinued operation in our unaudited consolidated statements of comprehensive income because the termination of the service does not represent a strategic shift that will have a major effect on our operations and financial results.

(5) Earnings per Share

Basic net income per common share is calculated by dividing the income available to common stockholders by the weighted average common shares outstanding during each reporting period. Diluted net income per common share adjusts the weighted average number of common shares outstanding for the potential dilution that could occur if common stock equivalents (stock options, restricted stock units and convertible debt) were exercised or converted into common stock, calculated using the treasury stock method. We had no participating securities during the three months ended June 30, 2021 and 2020.

Common stock equivalents of 96 and 77 for the three months ended June 30, 2021 and 2020, respectively, and 93 and 60 for the six months ended June 30, 2021, respectively, were excluded from the calculation of diluted net income per common share as the effect would have been anti-dilutive.

	For the Three Months Ended June 30,		For the Six Months Ended June 30,	
	2021	2020	2021	2020
Numerator:				
Net Income available to common stockholders for basic net income per common share	$ 433	$ 243	$ 652	$ 536
Effect of interest on assumed conversions of convertible notes, net of tax	2	2	4	4
Net Income available to common stockholders for dilutive net income per common share	$ 435	$ 245	$ 656	$ 540
Denominator:				
Weighted average common shares outstanding for basic net income per common share	4,079	4,369	4,108	4,387
Weighted average impact of assumed convertible notes	30	29	30	29
Weighted average impact of dilutive equity instruments	54	59	55	71
Weighted average shares for diluted net income per common share	4,163	4,457	4,193	4,487
Net income per common share:				
Basic	$ 0.11	$ 0.06	$ 0.16	$ 0.12
Diluted	$ 0.10	$ 0.05	$ 0.16	$ 0.12

SIRIUS XM HOLDINGS INC. AND SUBSIDIARIES
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS - Continued
(UNAUDITED)
(Dollars and shares in millions, except per share amounts)

(6) Receivables, net

Receivables, net, includes customer accounts receivable, receivables from distributors and other receivables. We do not have any customer receivables that individually represent more than ten percent of our receivables.

Customer accounts receivable, net, includes receivables from our subscribers and advertising customers, including advertising agencies and other customers, and is stated at amounts due, net of an allowance for doubtful accounts. Our allowance for doubtful accounts is based upon our assessment of various factors. We consider historical experience, the age of the receivable balances, current economic conditions, industry experience and other factors that may affect the counterparty's ability to pay. Bad debt expense is included in Customer service and billing expense in our unaudited consolidated statements of comprehensive income.

Receivables from distributors primarily include billed and unbilled amounts due from automakers for services included in the sale or lease price of vehicles, as well as billed amounts due from wholesale distributors of our satellite radios. Other receivables primarily include amounts due from manufacturers of our radios, modules and chipsets where we are entitled to subsidies and royalties based on the number of units produced. We have not established an allowance for doubtful accounts for our receivables from distributors or other receivables as we have historically not experienced any significant collection issues with automakers or other third parties and do not expect issues in the foreseeable future.

Receivables, net, consists of the following:

	June 30, 2021	December 31, 2020
Gross customer accounts receivable	$ 569	$ 574
Allowance for doubtful accounts	(11)	(15)
Customer accounts receivable, net	$ 558	$ 559
Receivables from distributors	60	73
Other receivables	36	40
Total receivables, net	$ 654	$ 672

(7) Inventory, net

Inventory consists of finished goods and refurbished goods. Inventory is stated at the lower of cost or market. We record an estimated allowance for inventory that is considered slow moving or obsolete or whose carrying value is in excess of net realizable value. The provision related to products purchased for resale in our direct to consumer distribution channel and components held for resale by us is reported as a component of Cost of equipment in our unaudited consolidated statements of comprehensive income. The provision related to inventory consumed in our OEM channel is reported as a component of Subscriber acquisition costs in our unaudited consolidated statements of comprehensive income.

Inventory, net, consists of the following:

	June 30, 2021	December 31, 2020
Finished goods	$ 8	$ 13
Allowance for obsolescence	(3)	(3)
Total inventory, net	$ 5	$ 10

(8) Goodwill

Goodwill represents the excess of the purchase price over the estimated fair value of the net tangible and identifiable intangible assets acquired in business combinations. Our annual impairment assessment of our two reporting units is performed as of the fourth quarter of each year, and an assessment is performed at other times if an event occurs or circumstances change that would more likely than not reduce the fair value of a reporting unit below its carrying amount. ASC 350, *Intangibles - Goodwill and Other*, states that an entity should perform its annual or interim goodwill impairment test by comparing the fair value of a reporting unit with its carrying amount and recognize an impairment charge for the amount by which the carrying amount exceeds the reporting unit's fair value. ASC 350 also states that a reporting unit with a zero or negative carrying

amount is not required to perform a qualitative assessment. Our Sirius XM reporting unit, which has an allocated goodwill balance of $2,290, had a negative carrying amount as of June 30, 2021.

As of June 30, 2021, there were no indicators of impairment, and no impairment losses were recorded for goodwill during the three and six months ended June 30, 2021 and 2020. As of June 30, 2021, the cumulative balance of goodwill impairments recorded was $5,722, of which $4,766 was recognized during the year ended December 31, 2008 and is included in the carrying amount of the goodwill allocated to our Sirius XM reporting unit and $956 was recognized during the year ended December 31, 2020 and is included in the carrying amount of the goodwill allocated to our Pandora reporting unit.

As of June 30, 2021, the carrying amount of goodwill for our Sirius XM and Pandora reporting units was $2,290 and $860, respectively. During the six months ended June 30, 2021, we recorded $6 of goodwill related to purchase accounting adjustments for the acquisition of Stitcher and $22 of goodwill related to a small acquisition which was recorded to our Pandora reporting unit. As of December 31, 2020, the carrying amount of goodwill for our Sirius XM and Pandora reporting units was $2,290 and $832, respectively.

(9) Intangible Assets

Our intangible assets include the following:

		June 30, 2021			December 31, 2020		
	Weighted Average Useful Lives	Gross Carrying Value	Accumulated Amortization	Net Carrying Value	Gross Carrying Value	Accumulated Amortization	Net Carrying Value
Indefinite life intangible assets:							
FCC licenses	Indefinite	$ 2,084	$ —	$ 2,084	$ 2,084	$ —	$ 2,084
Trademarks	Indefinite	250	—	250	250	—	250
Definite life intangible assets:							
OEM relationships	15 years	220	(112)	108	220	(105)	115
Licensing agreements	12 years	45	(45)	—	45	(45)	—
Software and technology	7 years	31	(18)	13	31	(16)	15
Due to Pandora and Stitcher Acquisitions:							
Indefinite life intangible assets:							
Trademarks	Indefinite	311	—	311	311	—	311
Definite life intangible assets:							
Customer relationships	8 years	441	(134)	307	441	(104)	337
Software and technology	5 years	373	(183)	190	373	(145)	228
Total intangible assets		$ 3,755	$ (492)	$ 3,263	$ 3,755	$ (415)	$ 3,340

Indefinite Life Intangible Assets

We have identified our FCC licenses and XM and Pandora trademarks as indefinite life intangible assets after considering the expected use of the assets, the regulatory and economic environment within which they are used and the effects of obsolescence on their use.

We hold FCC licenses to operate our satellite digital audio radio service and provide ancillary services. Each of the FCC licenses authorizes us to use radio spectrum, a reusable resource that does not deplete or exhaust over time.

Our annual impairment assessment of our identifiable indefinite lived intangible assets is performed as of the fourth quarter of each year. An assessment is performed at other times if an event occurs or circumstances change that would more likely than not reduce the fair value of the asset below its carrying value. If the carrying value of the intangible assets exceeds its fair value, an impairment loss is recognized in an amount equal to that excess. As of June 30, 2021, there were no indicators of impairment, and no impairment loss was recognized for intangible assets with indefinite lives during the three and six

months ended June 30, 2021. During the three and six months ended June 30, 2020, we recognized an impairment loss of less than $1 for intangible assets with indefinite lives related to the termination of the Automatic service.

Definite Life Intangible Assets

Amortization expense for all definite life intangible assets was $38 for each of the three months ended June 30, 2021 and 2020, and $77 and $76 for the six months ended June 30, 2021 and 2020, respectively. There were retirements of definite lived intangible assets of $17, which included a loss of $4, due to the termination of the Automatic service, during the six months ended June 30, 2020. There were no retirements of definite lived intangible assets during the six months ended June 30, 2021.

The expected amortization expense for each of the fiscal years 2021 through 2025 and for periods thereafter is as follows:

Years ending December 31,	Amount
2021 (remaining)	$ 76
2022	154
2023	141
2024	75
2025	69
Thereafter	103
Total definite life intangible assets, net	$ 618

(10) Property and Equipment

Property and equipment, net, consists of the following:

	June 30, 2021	December 31, 2020
Satellite system	$ 1,591	$ 1,587
Terrestrial repeater network	106	105
Leasehold improvements	108	111
Broadcast studio equipment	106	100
Capitalized software and hardware	1,411	1,372
Satellite telemetry, tracking and control facilities	99	96
Furniture, fixtures, equipment and other	92	92
Land	38	38
Building	63	63
Construction in progress	417	510
Total property and equipment	4,031	4,074
Accumulated depreciation and amortization	(2,626)	(2,445)
Property and equipment, net	$ 1,405	$ 1,629

Construction in progress consists of the following:

	June 30, 2021	December 31, 2020
Satellite system	$ 229	$ 429
Terrestrial repeater network	10	8
Capitalized software and hardware	146	52
Other	32	21
Construction in progress	$ 417	$ 510

Depreciation and amortization expense on property and equipment was $93 and $86 for the three months ended June 30, 2021 and 2020, respectively, and $186 and $180 for the six months ended June 30, 2021 and 2020, respectively. We retired property and equipment of $3 and $8 during the three and six months ended June 30, 2021, respectively. Property and equipment of $36 and $65, which included a loss of $13 related to the termination of the Automatic service, was retired during the three and six months ended June 30, 2020, respectively.

We capitalize a portion of the interest on funds borrowed to finance the construction and launch of our satellites. Capitalized interest is recorded as part of the asset's cost and depreciated over the satellite's useful life. Capitalized interest costs were and $2 and $4 for the three months ended June 30, 2021 and 2020, respectively, and $5 and $9 for the six months ended June 30, 2021 and 2020, respectively, which related to the construction of our SXM-8 satellite. We also capitalize a portion of share-based compensation related to employee time for capitalized software projects. Capitalized share-based compensation costs were $3 and $5 for the three months ended June 30, 2021 and 2020, respectively, and $6 and $8 for the six months ended June 30, 2021 and 2020, respectively.

Satellites

As of June 30, 2021, we operated a fleet of six satellites. Each satellite requires an FCC license, and prior to the expiration of each license, we are required to apply for a renewal of the FCC satellite license. The renewal and extension of our licenses is reasonably certain at minimal cost, which is expensed as incurred. The chart below provides certain information on our satellites as of June 30, 2021:

Satellite Description	Year Delivered	Estimated End of Depreciable Life	FCC License Expiration Year
SIRIUS FM-5	2009	2024	2025
SIRIUS FM-6	2013	2028	2022
XM-3	2005	2020	2021[(a)]
XM-4	2006	2021	2022
XM-5	2010	2025	2026
SXM-8	2021	2036	(b)

(a) We filed an application with the FCC to extend the license for the XM-3 satellite on February 26, 2021 and expect it to be granted routinely.
(b) SXM-8 will not be licensed until we notify the FCC that the satellite has been successfully placed into orbit at its assigned orbital location and that its operations conform to the terms and conditions of its authorization, which is expected in the third quarter.

On December 13, 2020, our SXM-7 satellite was launched and in-orbit testing of SXM-7 began on January 4, 2021. During in-orbit testing of SXM-7, events occurred which caused failures of certain SXM-7 payload units. The evaluation of SXM-7 concluded that the satellite will not function as intended, which we considered to be a triggering event prompting the assessment as to whether the asset's carrying value of $220 was recoverable. In determining recoverability of SXM-7, we compared the asset's carrying value to the undiscounted cash flows derived from the satellite. SXM-7 was determined to be a total loss and therefore, we determined that the carrying value of the satellite is not recoverable and an impairment charge of $220 was recorded to Impairment, restructuring and acquisition costs in our unaudited consolidated statements of comprehensive income for the six months ended June 30, 2021. SXM-7 remains in-orbit and has been moved to its assigned orbital location, but is not being used to provide satellite radio service.

We procured insurance for SXM-7 to cover the risks associated with the satellite's launch and first year of in-orbit operation. The aggregate coverage under the insurance policies with respect to SXM-7 is $225. We filed insurance claims with the insurers with respect to SXM-7 in May 2021. During the three and six months ended June 30, 2021 we recorded insurance recoveries of $140 which have been recorded as a reduction to Impairment, restructuring and acquisition costs in our unaudited consolidated statements of comprehensive income. We collected $17 of insurance recoveries through June 30, 2021 and the remaining $123 is recorded as a receivable in Prepaid expenses and other current assets in our unaudited consolidated balance sheet. At this time, we are unable to reliably estimate the timing and amount of the remaining insurance recoveries and will record the insurance recoveries when they are probable and estimable.

We do not expect our satellite radio service to be impacted by these adverse SXM-7 events. Our XM-3 and XM-4 satellites continue to operate and are expected to support our satellite radio service for several years. In addition, our XM-5

satellite remains available as an in-orbit spare. Our SXM-8 satellite was successfully launched into a geostationary orbit on June 6, 2021 and is expected to be placed into service during the third quarter of 2021 following the completion of in-orbit testing.

(11) Leases

We have operating and finance leases for offices, terrestrial repeaters, data centers and certain equipment. Our leases have remaining lease terms of less than 1 year to 17 years, some of which may include options to extend the leases for up to 5 years, and some of which may include options to terminate the leases within 1 year. We elected the practical expedient to account for the lease and non-lease components as a single component. Additionally, we elected the practical expedient to not recognize right-of-use assets or lease liabilities for short-term leases, which are those leases with a term of twelve months or less at the lease commencement date.

The components of lease expense were as follows:

	For the Three Months Ended June 30,		For the Six Months Ended June 30,	
	2021	2020	2021	2020
Operating lease cost	$ 21	$ 21	$ 42	$ 41
Finance lease cost	—	1	—	1
Sublease income	—	(1)	(1)	(1)
Total lease cost	$ 21	$ 21	$ 41	$ 41

During the six months ended June 30, 2021, we ceased using certain leased locations and recorded an impairment charge of $18 to write down the carrying value of the right-of-use assets for these locations to their estimated fair values. Refer to Note 4 for additional information.

(12) Related Party Transactions

In the normal course of business, we enter into transactions with related parties such as Sirius XM Canada and SoundCloud.

Liberty Media

As of June 30, 2021, Liberty Media beneficially owned, directly and indirectly, approximately 78% of the outstanding shares of our common stock. Liberty Media has three of its executives and one of its directors on our board of directors. Gregory B. Maffei, the President and Chief Executive Officer of Liberty Media, is the Chairman of our board of directors.

Sirius XM Canada

Sirius XM holds a 70% equity interest and 33% voting interest in Sirius XM Canada, a privately held corporation. We own 591 shares of preferred stock of Sirius XM Canada, which has a liquidation preference of one Canadian dollar per share. Sirius XM also made a loan to Sirius XM Canada in the aggregate amount of $131. The loan is denominated in Canadian dollars and is considered a long-term investment with any unrealized gains or losses reported within Accumulated other comprehensive (loss) income. During the six months ended June 30, 2021 and 2020, Sirius XM Canada repaid $2 and $3 of the principal amount of the loan, respectively.

Sirius XM has a Services Agreement and an Advisory Services Agreement with Sirius XM Canada. Each agreement has a thirty-year term. Pursuant to the Services Agreement, Sirius XM Canada currently pays Sirius XM 25% of its gross revenues on a monthly basis, and pursuant to the Advisory Services Agreement, Sirius XM Canada pays Sirius XM 5% of its gross revenues on a monthly basis.

Sirius XM Canada is accounted for as an equity method investment, and its results are not consolidated in our unaudited consolidated financial statements. Sirius XM Canada does not meet the requirements for consolidation as we do not have the ability to direct the most significant activities that impact Sirius XM Canada's economic performance.

Our related party long-term assets as of June 30, 2021 and December 31, 2020 included the carrying value of our investment balance in Sirius XM Canada of $349 and $332, respectively, and, as of June 30, 2021 and December 31, 2020, also included $124 and $123, respectively, for the long-term value of the outstanding loan to Sirius XM Canada.

Sirius XM Canada paid gross dividends to us of less than $1 during each of the three months ended June 30, 2021 and 2020 and $1 during each of the six months ended June 30, 2021 and 2020. Dividends are first recorded as a reduction to our investment balance in Sirius XM Canada to the extent a balance exists and then as Other (expense) income for any remaining portion.

We recorded revenue from Sirius XM Canada as Other revenue in our unaudited consolidated statements of comprehensive income of $26 and $23 for the three months ended June 30, 2021 and 2020, respectively, and $50 and $48 for the six months ended June 30, 2021 and 2020, respectively.

SoundCloud

In February 2020, Sirius XM completed a $75 investment in SoundCloud's Series G Membership Units ("Series G Units"). The Series G Units are convertible at the option of the holders at any time into shares of ordinary membership units of SoundCloud at a ratio of one ordinary membership unit for each Series G Unit. The investment in SoundCloud is accounted for as an equity method investment which is recorded in Related party long-term assets in our unaudited consolidated balance sheets. Sirius XM has appointed two individuals to serve on SoundCloud's nine-member board of managers. Sirius XM's share of SoundCloud's net income (loss) was $1 and $(1) for the three months ended June 30, 2021 and 2020, respectively, and $1 and $(1) for the six months ended June 30, 2021 and 2020, respectively, which was recorded in Other income (expense) in our unaudited consolidated statement of comprehensive income.

In addition to our investment in SoundCloud, Pandora has an agreement with SoundCloud to be its exclusive US ad sales representative. Through this arrangement, Pandora offers advertisers the ability to execute campaigns in the US across the Pandora and SoundCloud listening platforms. We recorded revenue share expense of $14 and $10 for the three months ended June 30, 2021 and 2020, respectively, and $27 and $22 for the six months ended June 30, 2021 and 2020, respectively. We also had related party liabilities of $19 as of June 30, 2021 related to this agreement.

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(13) Debt

Our debt as of June 30, 2021 and December 31, 2020 consisted of the following:

Issuer / Borrower	Issued	Debt	Maturity Date	Interest Payable	Principal Amount at June 30, 2021	Carrying value[a] at June 30, 2021	Carrying value[a] at December 31, 2020
Sirius XM (b) (g)	July 2017	3.875% Senior Notes	August 1, 2022	semi-annually on February 1 and August 1	$ 1,000	$ 998	$ 997
Pandora (c) (d)	June 2018	1.75% Convertible Senior Notes	December 1, 2023	semi-annually on June 1 and December 1	193	173	170
Sirius XM (b)	July 2019	4.625% Senior Notes	July 15, 2024	semi-annually on January 15 and July 15	1,500	1,489	1,488
Sirius XM (b)	May 2016	5.375% Senior Notes	July 15, 2026	semi-annually on January 15 and July 15	1,000	994	993
Sirius XM (b)	July 2017	5.00% Senior Notes	August 1, 2027	semi-annually on February 1 and August 1	1,500	1,490	1,490
Sirius XM (b) (f)	June 2021	4.00% Senior Notes	July 15, 2028	semi-annually on January 15 and July 15	2,000	1,978	—
Sirius XM (b)	June 2019	5.500% Senior Notes	July 1, 2029	semi-annually on January 1 and July 1	1,250	1,238	1,237
Sirius XM (b)	June 2020	4.125% Senior Notes	July 1, 2030	semi-annually on January 1 and July 1	1,500	1,485	1,484
Sirius XM (e)	December 2012	Senior Secured Revolving Credit Facility (the "Credit Facility")	June 29, 2023	variable fee paid quarterly	—	—	649
Sirius XM	Various	Finance leases	Various	n/a	n/a	—	1
Total Debt						9,845	8,509
Less: total current maturities (g)						998	1
Less: total deferred financing costs						12	9
Total long-term debt						$ 8,835	$ 8,499

(a) The carrying value of the obligations is net of any remaining unamortized original issue discount.
(b) All material domestic subsidiaries, including Pandora and its subsidiaries, that guarantee the Credit Facility have guaranteed these notes.
(c) Holdings has unconditionally guaranteed all of the payment obligations of Pandora under these notes.
(d) We acquired $193 in principal amount of the 1.75% Convertible Senior Notes due 2023 as part of the acquisition of Pandora Media, Inc. in 2019. We allocate the principal amount of the 1.75% Convertible Senior Notes due 2023 between the liability and equity components. The value assigned to the debt components of the 1.75% Convertible Senior Notes due 2023 is the estimated fair value as of the issuance date of similar debt without the conversion feature. The difference between the fair value of the debt and this estimated fair value represents the value which has been assigned to the equity component. The equity component is recorded to additional paid-in capital and is not remeasured as long as it continues to meet the conditions for equity classification. The excess of the principal amount of the Notes over the carrying amount of the liability component is recorded as a debt discount and is being amortized to interest expense using the effective interest method through the December 1, 2023 maturity date. The 1.75% Convertible Senior Notes due 2023 were not convertible into common stock and not redeemable as of June 30, 2021. As a result, we have classified the debt as Long-term within our unaudited consolidated balance sheets.
(e) The $1,750 Credit Facility expires in June 2023. Sirius XM's obligations under the Credit Facility are guaranteed by certain of its material domestic subsidiaries, including Pandora and its subsidiaries, and are secured by a lien on substantially all of Sirius XM's assets and the assets of its material domestic subsidiaries. Interest on borrowings is payable on a monthly basis and accrues at a rate based on LIBOR plus an applicable rate. Sirius XM is also required to pay a variable fee on the average daily unused portion of the Credit Facility which is payable on a quarterly basis. The variable rate for the unused portion of the Credit Facility was 0.25% per annum as of June 30, 2021. All of Sirius XM's outstanding borrowings under the Credit Facility are classified as Long-term debt within our unaudited consolidated balance sheets due to the long-term maturity of this debt. Additionally, the amount available for future borrowing under the Credit Facility is reduced by letters of credit issued for the benefit of Pandora, which were $1 as of June 30, 2021.

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(f) On June 21, 2021, Sirius XM issued $2,000 aggregate principal amount of the 4.00% Senior Notes due 2028 with a net original issuance discount and deferred financing costs in the aggregate of $26.
(g) On June 21, 2021, Sirius XM issued a redemption notice pursuant to the indenture governing its 3.875% Senior Notes due 2022 to redeem all of the $1,000 aggregate principal amount outstanding at par value. These Notes have been presented in Current maturities of debt in our June 30, 2021 unaudited consolidated balance sheet.

Covenants and Restrictions

Under the Credit Facility, Sirius XM, our wholly owned subsidiary, must comply with a debt maintenance covenant that it cannot exceed a total leverage ratio, calculated as consolidated total debt to consolidated operating cash flow, of 5.0 to 1.0. The Credit Facility generally requires compliance with certain covenants that restrict Sirius XM's ability to, among other things, (i) incur additional indebtedness, (ii) incur liens, (iii) pay dividends or make certain other restricted payments, investments or acquisitions, (iv) enter into certain transactions with affiliates, (v) merge or consolidate with another person, (vi) sell, assign, lease or otherwise dispose of all or substantially all of Sirius XM's assets, and (vii) make voluntary prepayments of certain debt, in each case subject to exceptions.

The indentures governing Sirius XM's notes restrict Sirius XM's non-guarantor subsidiaries' ability to create, assume, incur or guarantee additional indebtedness without such non-guarantor subsidiary guaranteeing each such series of notes on a pari passu basis. The indentures governing the notes also contain covenants that, among other things, limit Sirius XM's ability and the ability of its subsidiaries to create certain liens; enter into sale/leaseback transactions; and merge or consolidate.

Under Sirius XM's debt agreements, the following generally constitute an event of default: (i) a default in the payment of interest; (ii) a default in the payment of principal; (iii) failure to comply with covenants; (iv) failure to pay other indebtedness after final maturity or acceleration of other indebtedness exceeding a specified amount; (v) certain events of bankruptcy; (vi) a judgment for payment of money exceeding a specified aggregate amount; and (vii) voidance of subsidiary guarantees, subject to grace periods where applicable. If an event of default occurs and is continuing, our debt could become immediately due and payable.

The indenture governing the Pandora 2023 Notes (as defined below) contains covenants that limit Pandora's ability to merge or consolidate and provides for customary events of default, which include nonpayment of principal or interest, breach of covenants, payment defaults or acceleration of other indebtedness and certain events of bankruptcy.

At June 30, 2021 and December 31, 2020, we were in compliance with our debt covenants.

Pandora Convertible Notes

Pandora's 1.75% Convertible Senior Notes due 2023 (the "Pandora 2023 Notes") are unsecured, senior obligations of Pandora. Holdings has guaranteed the payment and performance obligations of Pandora under the Pandora 2023 Notes and the indenture governing the Pandora 2023 Notes.

The Pandora 2023 Notes will mature on December 1, 2023, unless earlier repurchased or redeemed by Pandora or converted in accordance with their terms. As of June 30, 2021, the conversion rate applicable to the Pandora 2023 Notes was 153.7797 shares of Holdings' common stock per one thousand principal amount of the Pandora 2023 Notes.

(14) Stockholders' Equity

Common Stock, par value $0.001 per share

We are authorized to issue up to 9,000 shares of common stock. There were 4,059 and 4,176 shares of common stock issued and 4,058 and 4,173 shares of common stock outstanding on June 30, 2021 and December 31, 2020, respectively.

As of June 30, 2021, there were 254 shares of common stock reserved for issuance in connection with outstanding stock-based awards to members of our board of directors, employees and third parties.

Quarterly Dividends

During the six months ended June 30, 2021, we declared and paid the following dividends:

Declaration Date	Dividend Per Share	Record Date	Total Amount	Payment Date
January 28, 2021	$ 0.014641	February 10, 2021	$ 61	February 26, 2021
April 20, 2021	$ 0.014641	May 7, 2021	$ 60	May 28, 2021

Stock Repurchase Program

As of June 30, 2021, our board of directors had approved for repurchase an aggregate of $16,000 of our common stock. Our board of directors did not establish an end date for this stock repurchase program. Shares of common stock may be purchased from time to time on the open market, pursuant to pre-set trading plans meeting the requirements of Rule 10b5-1 under the Exchange Act, in privately negotiated transactions, including transactions with Liberty Media and its affiliates, or otherwise. As of June 30, 2021, our cumulative repurchases since December 2012 under our stock repurchase program totaled 3,452 shares for $15,252, and $748 remained available for future share repurchases under our stock repurchase program.

The following table summarizes our total share repurchase activity for the six months ended:

	June 30, 2021		June 30, 2020	
Share Repurchase Type	Shares	Amount	Shares	Amount
Open Market Repurchases [(a)]	138	$ 844	70	$ 408

(a) As of June 30, 2021, $7 of common stock repurchases had not settled, nor been retired, and were recorded as Treasury stock within our consolidated balance sheets and consolidated statement of stockholders' equity (deficit).

Preferred Stock, par value $0.001 per share

We are authorized to issue up to 50 shares of undesignated preferred stock with a liquidation preference of $0.001 per share. There were no shares of preferred stock issued or outstanding as of June 30, 2021 and December 31, 2020.

(15) Benefit Plans

We recognized share-based payment expense of $47 and $52 for the three months ended June 30, 2021 and 2020, respectively, and $98 and $107 for the six months ended June 30, 2021 and 2020, respectively.

2015 Long-Term Stock Incentive Plan

In May 2015, our stockholders approved the Sirius XM Holdings Inc. 2015 Long-Term Stock Incentive Plan (the "2015 Plan"). Employees, consultants and members of our board of directors are eligible to receive awards under the 2015 Plan. The 2015 Plan provides for the grant of stock options, restricted stock awards, restricted stock units and other stock-based awards that the Compensation Committee of our Board of Directors deems appropriate. Stock-based awards granted under the 2015 Plan are generally subject to a graded vesting requirement, which is generally three to four years from the grant date. Stock options generally expire ten years from the date of grant. Restricted stock units include performance-based restricted stock units ("PRSUs"), the vesting of which are subject to the achievement of performance goals and the employee's continued employment and generally cliff vest on the third anniversary of the grant date. Each restricted stock unit entitles the holder to receive one share of common stock upon vesting. As of June 30, 2021, 138 shares of common stock were available for future grants under the 2015 Plan.

In February 2021, the Compensation Committee of our Board of Directors approved a modification to the design of our long-term equity compensation program for our senior management. The Compensation Committee intends to award equity-based compensation to our senior management in the form of: 25% stock options, which awards will vest in installments on the first three anniversaries of the date of grant; 25% restricted stock units, which awards will vest in installments on the first three anniversaries of the date of grant; 25% PRSUs, which will cliff vest on the third anniversary of the date of grant after a two-year performance period if the free cash flow target established by the Compensation Committee is achieved; and 25% PRSUs, which will cliff vest after a three-year performance period based on the performance of our common stock relative to the companies included in the S&P 500 Index. We refer to this performance measure as a relative "TSR" or "total stockholder

return" metric. PRSUs based on the relative total stockholder return metric will only vest if our performance achieves at least the 25th percentile, with a target payout requiring performance at the 50th percentile. The settlement of PRSUs earned in respect of the applicable three-year performance period will be generally subject to the executive's continued employment with us through the date the total stockholder return performance is certified by the Compensation Committee.

In connection with our February 2019 acquisition of Pandora, we assumed all shares available for issuance (including any shares that later become available for issuance in accordance with the terms of the applicable plans) under each of the 2014 Stock Incentive Plan of AdsWizz Inc., the Pandora Media, Inc. 2011 Equity Incentive Plan, the Pandora Media, Inc. 2004 Stock Plan and the TheSavageBeast.com, Inc. 2000 Stock Incentive Plan, which were previously approved by stockholders of Pandora or the applicable adopting entity. All shares available under these stock plans became additional shares available for grant pursuant to the terms of the 2015 Plan (as adjusted, to the extent appropriate, to reflect the application of the exchange ratio). Subject to certain limitations set forth in the 2015 Plan, such shares may be used for awards under the 2015 Plan.

Other Plans

We maintain six share-based benefit plans in addition to the 2015 Plan — the Sirius XM Radio Inc. 2009 Long-Term Stock Incentive Plan, the Amended and Restated Sirius Satellite Radio 2003 Long-Term Stock Incentive Plan, the 2014 Stock Incentive Plan of AdsWizz Inc., the Pandora Media, Inc. 2011 Equity Incentive Plan, the Pandora Media, Inc. 2004 Stock Plan and the TheSavageBeast.com, Inc. 2000 Stock Incentive Plan. Excluding dividend equivalent units granted as a result of a declared dividend, no further awards may be made under these plans.

The following table summarizes the weighted-average assumptions used to compute the fair value of options granted to employees, members of our board of directors and non-employees:

	For the Three Months Ended June 30,		For the Six Months Ended June 30,	
	2021	2020	2021	2020
Risk-free interest rate	0.3%	0.3%	0.6%	1.3%
Expected life of options — years	2.71	3.80	6.06	3.82
Expected stock price volatility	34%	36%	33%	25%
Expected dividend yield	1.0%	0.9%	1.0%	0.7%

The following table summarizes stock option activity under our share-based plans for the six months ended June 30, 2021:

	Options	Weighted-Average Exercise Price Per Share	Weighted-Average Remaining Contractual Term (Years)	Aggregate Intrinsic Value
Outstanding as of December 31, 2020	184	$ 4.73		
Granted	53	$ 6.14		
Exercised	(55)	$ 3.98		
Forfeited, cancelled or expired	(2)	$ 6.33		
Outstanding as of June 30, 2021	180	$ 5.36	5.85	$ 225
Exercisable as of June 30, 2021	101	$ 4.67	4.57	$ 195

The weighted average grant date fair value per stock option granted during the six months ended June 30, 2021 was $1.78. The total intrinsic value of stock options exercised during the six months ended June 30, 2021 and 2020 was $130 and $39, respectively. During the six months ended June 30, 2021, the number of net settled shares issued as a result of stock option exercises was 18.

We recognized share-based payment expense associated with stock options of $11 and $12 for the three months ended June 30, 2021 and 2020, respectively, and $22 and $23 for the six months ended June 30, 2021 and 2020, respectively.

The following table summarizes the restricted stock unit, including PRSU, activity under our share-based plans for the six months ended June 30, 2021:

	Shares	Grant Date Fair Value Per Share
Nonvested as of December 31, 2020	75	$ 6.06
Granted	13	$ 6.03
Vested	(9)	$ 6.05
Forfeited	(5)	$ 6.05
Nonvested as of June 30, 2021	74	$ 6.06

The total intrinsic value of restricted stock units, including PRSUs, vesting during the six months ended June 30, 2021 and 2020 was $54 and $77, respectively. During the six months ended June 30, 2021, the number of net settled shares issued as a result of restricted stock units vesting totaled 5. During the six months ended June 30, 2021, we granted 7 PRSUs to certain employees. We believe it is probable that the performance target applicable to these PRSUs will be achieved.

In connection with the cash dividends paid during the six months ended June 30, 2021, we granted less than 1 restricted stock units, including PRSUs, in accordance with the terms of existing award agreements. These grants did not result in any additional incremental share-based payment expense being recognized during the six months ended June 30, 2021.

We recognized share-based payment expense associated with restricted stock units, including PRSUs, of $36 and $40 for the three months ended June 30, 2021 and 2020, respectively, and $76 and $84 for the six months ended June 30, 2021 and 2020, respectively.

Total unrecognized compensation costs related to unvested share-based payment awards for stock options and restricted stock units, including PRSUs, granted to employees, members of our board of directors and third parties at June 30, 2021 and December 31, 2020 was $413 and $385, respectively. The total unrecognized compensation costs at June 30, 2021 are expected to be recognized over a weighted-average period of 2.2 years.

401(k) Savings Plans

Sirius XM Radio Inc. 401(k) Savings Plan

Sirius XM sponsors the Sirius XM Radio Inc. 401(k) Savings Plan (the "Sirius XM Plan") for eligible employees. The Sirius XM Plan allows eligible employees to voluntarily contribute from 1% to 50% of their pre-tax eligible earnings, subject to certain defined limits. We match 50% of an employee's voluntary contributions per pay period on the first 6% of an employee's pre-tax salary up to a maximum of 3% of eligible compensation. We may also make additional discretionary matching, true-up matching and non-elective contributions to the Sirius XM Plan. Employer matching contributions under the Sirius XM Plan vest at a rate of 33.33% for each year of employment and are fully vested after three years of employment for all current and future contributions. Our cash employer matching contributions are not used to purchase shares of our common stock on the open market, unless the employee elects our common stock as their investment option for this contribution. In October 2020, the Pandora Media, LLC 401(k) Profit Sharing Plan and Trust merged with the Sirius XM Plan.

We recognized expenses of $8 and $3 for the three months ended June 30, 2021 and 2020, respectively, and $13 and $8 for the six months ended June 30, 2021 and 2020, respectively, in connection with the Sirius XM and Pandora Plans.

Sirius XM Holdings Inc. Deferred Compensation Plan

The Sirius XM Holdings Inc. Deferred Compensation Plan (the "DCP") allows members of our board of directors and certain eligible employees to defer all or a portion of their base salary, cash incentive compensation and/or board of directors' cash compensation, as applicable. Pursuant to the terms of the DCP, we may elect to make additional contributions beyond amounts deferred by participants, but we are under no obligation to do so. We have established a grantor (or "rabbi") trust to facilitate the payment of our obligations under the DCP.

Contributions to the DCP, net of withdrawals, were less than $1 and $1 for the three months ended June 30, 2021 and 2020, respectively, and $3 and $7 for the six months ended June 30, 2021 and 2020, respectively. As of June 30, 2021 and

December 31, 2020, the fair value of the investments held in the trust were $53 and $46, respectively, which is included in Other long-term assets in our unaudited consolidated balance sheets and classified as trading securities. Trading gains and losses associated with these investments are recorded in Other (expense) income within our unaudited consolidated statements of comprehensive income. The associated liability is recorded within Other long-term liabilities in our unaudited consolidated balance sheets, and any increase or decrease in the liability is recorded in General and administrative expense within our unaudited consolidated statements of comprehensive income. We recorded unrealized gains (losses) on investments held in the trust of $3 and $4 for the three months ended June 30, 2021 and 2020, respectively, and $4 and $(1) for the six months ended June 30, 2021 and 2020, respectively.

(16) Commitments and Contingencies

The following table summarizes our expected contractual cash commitments as of June 30, 2021:

	2021	2022	2023	2024	2025	Thereafter	Total
Debt obligations	$ 1,000	$ —	$ 193	$ 1,500	$ —	$ 7,250	$ 9,943
Cash interest payments	187	422	415	409	339	1,028	2,800
Satellite and transmission	27	3	2	2	2	10	46
Programming and content	202	374	291	169	122	195	1,353
Sales and marketing	28	45	13	3	3	6	98
Satellite incentive payments	4	7	7	8	7	23	56
Operating lease obligations	35	71	62	49	47	135	399
Royalties, minimum guarantees and other	218	399	533	23	6	—	1,179
Total [1]	$ 1,701	$ 1,321	$ 1,516	$ 2,163	$ 526	$ 8,647	$ 15,874

(1) The table does not include our reserve for uncertain tax positions, which at June 30, 2021 totaled $26.

Debt obligations. Debt obligations include principal payments on outstanding debt and finance lease obligations.

Cash interest payments. Cash interest payments include interest due on outstanding debt and capital lease payments through maturity.

Satellite and transmission. We have entered into agreements with several third parties to design, build, launch and insure one satellite, SXM-8. We also have entered into agreements with third parties to operate and maintain satellite telemetry, tracking and control facilities and certain components of our terrestrial repeater networks.

Programming and content. We have entered into various programming and content agreements. Under the terms of these agreements, our obligations include fixed payments, advertising commitments and revenue sharing arrangements. In certain of these agreements, the future revenue sharing costs are dependent upon many factors and are difficult to estimate; therefore, they are not included in our minimum contractual cash commitments.

Sales and marketing. We have entered into various marketing, sponsorship and distribution agreements to promote our brands and are obligated to make payments to sponsors, retailers, automakers, radio manufacturers and other third parties under these agreements. Certain programming and content agreements also require us to purchase advertising on properties owned or controlled by the licensors.

Satellite incentive payments. Boeing Satellite Systems International, Inc., the manufacturer of certain of our in-orbit satellites, may be entitled to future in-orbit performance payments upon XM-4 meeting its fifteen-year design life, which we expect to occur. Boeing may also be entitled to up to $10 of additional incentive payments if our XM-4 satellite continues to operate above baseline specifications during the five years beyond the satellite's fifteen-year design life.

Maxar Technologies (formerly Space Systems/Loral), the manufacturer of certain of our in-orbit satellites, may be entitled to future in-orbit performance payments upon XM-5, SIRIUS FM-5 and SIRIUS FM-6 meeting their fifteen-year design life, which we expect to occur.

Operating lease obligations. We have entered into both cancelable and non-cancelable operating leases for office space, terrestrial repeaters, data centers and equipment. These leases provide for minimum lease payments, additional operating expense charges, leasehold improvements and rent escalations that have initial terms ranging from one to fifteen years, and certain leases have options to renew.

Royalties, Minimum Guarantees and Other. We have entered into music royalty arrangements that include fixed payments. Certain of our content agreements also contain minimum guarantees. During the six months ended June 30, 2021, we prepaid $5 in content costs related to minimum guarantees. As of June 30, 2021, we had future fixed minimum guarantee commitments of $700, of which $265 will be paid in 2021 and the remainder will be paid thereafter. On a quarterly basis, we record the greater of the cumulative actual content costs incurred or the cumulative minimum guarantee based on forecasted usage for the minimum guarantee period. The minimum guarantee period is the period of time that the minimum guarantee relates to, as specified in each agreement, which may be annual or a longer period. The cumulative minimum guarantee, based on forecasted usage, considers factors such as listening hours, revenue, subscribers and other terms of each agreement that impact our expected attainment or recoupment of the minimum guarantees based on the relative attribution method.

Several of our content agreements also include provisions related to the royalty payments and structures of those agreements relative to other content licensing arrangements, which, if triggered, cause our payments under those agreements to escalate. In addition, record labels, publishers and performing rights organizations ("PROs") with whom we have entered into direct license agreements have the right to audit our content payments, and any such audit could result in disputes over whether we have paid the proper content costs.

We have also entered into various agreements with third parties for general operating purposes. The cost of our common stock acquired in our capital return program but not paid for as of June 30, 2021 was also included in this category.

In addition to the minimum contractual cash commitments described above, we have entered into other variable cost arrangements. These future costs are dependent upon many factors and are difficult to anticipate; however, these costs may be substantial. We may enter into additional programming, distribution, marketing and other agreements that contain similar variable cost provisions. We also have a surety bond of approximately $45 primarily used as security against non-performance in the normal course of business. We do not have any other significant off-balance sheet financing arrangements that are reasonably likely to have a material effect on our financial condition, results of operations, liquidity, capital expenditures or capital resources.

Legal Proceedings

In the ordinary course of business, we are a defendant or party to various claims and lawsuits, including those discussed below.

We record a liability when we believe that it is both probable that a liability will be incurred, and the amount of loss can be reasonably estimated. We evaluate developments in legal matters that could affect the amount of liability that has been previously accrued and make adjustments as appropriate. Significant judgment is required to determine both probability and the estimated amount of a loss or potential loss. We may be unable to reasonably estimate the reasonably possible loss or range of loss for a particular legal contingency for various reasons, including, among others, because: (i) the damages sought are indeterminate; (ii) the proceedings are in the relative early stages; (iii) there is uncertainty as to the outcome of pending proceedings (including motions and appeals); (iv) there is uncertainty as to the likelihood of settlement and the outcome of any negotiations with respect thereto; (v) there remain significant factual issues to be determined or resolved; (vi) the relevant law is unsettled; or (vii) the proceedings involve novel or untested legal theories. In such instances, there may be considerable uncertainty regarding the ultimate resolution of such matters, including the likelihood or magnitude of a possible eventual loss, if any.

Pre-1972 Sound Recording Litigation. On October 2, 2014, Flo & Eddie Inc. filed a class action suit against Pandora in the federal district court for the Central District of California. The complaint alleges a violation of California Civil Code Section 980, unfair competition, misappropriation and conversion in connection with the public performance of sound recordings recorded prior to February 15, 1972 (which we refer to as, "pre-1972 recordings"). On December 19, 2014, Pandora filed a motion to strike the complaint pursuant to California's Anti-Strategic Lawsuit Against Public Participation ("Anti-SLAPP") statute, which following denial of Pandora's motion was appealed to the Ninth Circuit Court of Appeals. In March

2017, the Ninth Circuit requested certification to the California Supreme Court on the substantive legal questions. The California Supreme Court accepted certification. In May 2019, the California Supreme Court issued an order dismissing consideration of the certified questions on the basis that, following the enactment of the Orrin G. Hatch-Bob Goodlatte Music Modernization Act, Pub. L. No. 115-264, 132 Stat. 3676 (2018) (the "MMA"), resolution of the questions posed by the Ninth Circuit Court of Appeals was no longer "necessary to . . . settle an important question of law."

The MMA grants a potential federal preemption defense to the claims asserted in the aforementioned lawsuits. In July 2019, Pandora took steps to avail itself of this preemption defense, including making the required payments under the MMA for certain of its uses of pre-1972 recordings. Based on the federal preemption contained in the MMA (along with other considerations), Pandora asked the Ninth Circuit to order the dismissal of the *Flo & Eddie, Inc. v. Pandora Media, Inc.* case. On October 17, 2019, the Ninth Circuit Court of Appeals issued a memorandum disposition concluding that the question of whether the MMA preempts Flo and Eddie's claims challenging Pandora's performance of pre-1972 recordings "depends on various unanswered factual questions" and remanded the case to the District Court for further proceedings.

In October 2020, the District Court denied Pandora's renewed motion to dismiss the case under California's anti-SLAPP statute, finding the case no longer qualified for anti-SLAPP due to intervening changes in the law, and denied Pandora's renewed attempt to end the case. Alternatively, the District Court ruled that the preemption defense likely did not apply to Flo & Eddie's claims, in part because the District Court believed that the MMA did not apply retroactively. Pandora promptly appealed the District Court's decision to the Ninth Circuit, and moved to stay appellate briefing pending the appeal of a related case against Sirius XM. On January 13, 2021, the Ninth Circuit issued an order granting the stay of appellate proceedings pending the resolution of a related case against Sirius XM.

We believe we have substantial defenses to the claims asserted in this action, and we intend to defend this action vigorously.

Copyright Royalty Board Proceeding to Determine the Rate for Statutory Webcasting. On June 11, 2021, the Copyright Royalty Board (the "CRB") of the Library of Congress issued its initial determination regarding the royalty rates payable by us under the statutory license by which webcasters perform sound recordings via digital transmission over the internet and make ephemeral (server) copies of those recordings during the five-year period starting January 1, 2021 and ending on December 31, 2025. Because the proceeding focuses on setting statutory rates for non-interactive online music streaming (commonly identified as "webcasting"), the proceeding sets the rates that our Pandora business pays for statutorily licensed music streaming on its free, ad-supported service (and for the non-interactive music streaming that occurs on its subscription tiers), and that our Sirius XM business pays for music streaming on its subscription internet radio service.

This proceeding does not set the rates that we pay for our other music offerings (such as our satellite radio or business establishment services) and does not affect the rates we pay music publishers for our services, which are covered under different licenses. The statutory rates set in this proceeding will, however, affect the amount we pay for streaming on Pandora under certain of its direct licenses with sound recording copyright owners (i.e., record companies). The royalty rates under many of those direct licenses, which cover a large majority of the sound recordings that we perform on Pandora, are indexed to the statutory rates established in this proceeding.

Under the terms of the CRB's decision, the statutory royalty rate in 2021 will be $0.0021 per performance for non-subscription transmissions (such as offered by the Pandora ad-supported business) and $0.0026 per performance for subscription transmissions (such as offered by the Sirius XM internet radio service). The rate for 2020 was $0.0018 per performance for non-subscription transmissions and $0.0024 per performance for subscription transmissions. The rates announced by the CRB in this initial determination for 2021 are an approximate 17% increase in the rates for non-subscription transmissions and an approximate 8% increase in the rates for subscription transmissions, in each case over the rates in effect during 2020. Rates for the remainder of the five-year period are subject to adjustment each year by the CRB to reflect any changes occurring in the cost of living as determined by the most recent Consumer Price Index for All Urban Consumers.

Once the CRB has provided the Register of Copyrights with sixty days to review the determination for any legal error, the Librarian of Congress will publish the final determination in the Federal Register. The parties will have thirty days from that publication to appeal the decision to the U.S. Court of Appeals for the District of Columbia Circuit.

Other Matters. In the ordinary course of business, we are a defendant in various other lawsuits and arbitration proceedings, including derivative actions; actions filed by subscribers, both on behalf of themselves and on a class action basis;

former employees; parties to contracts or leases; and owners of patents, trademarks, copyrights or other intellectual property. None of these other matters, in our opinion, is likely to have a material adverse effect on our business, financial condition or results of operations.

(17) Income Taxes

We file a consolidated federal income tax return for all of our wholly owned subsidiaries. For the three months ended June 30, 2021 and 2020, income tax expense was $127 and $74, respectively, and $65 and $154 for the six months ended June 30, 2021 and 2020, respectively.

Our effective tax rate for the three months ended June 30, 2021 and 2020 was 22.7% and 23.3%, respectively. Our effective tax rate for the six months ended June 30, 2021 and 2020 was 9.1% and 22.3%, respectively. The effective tax rate for the three months ended June 30, 2021 was primarily impacted by the recognition of excess tax benefits related to share-based compensation. The effective tax rate for the six months ended June 30, 2021 was primarily impacted by a $95 benefit associated with a state tax audit settlement. The effective tax rates for the three and six months ended June 30, 2020 were primarily impacted by federal and state tax credits and the recognition of excess tax benefits related to share-based compensation. We estimate our effective tax rate for the year ending December 31, 2021 will be approximately 17%.

As of June 30, 2021 and December 31, 2020, we had a valuation allowance related to deferred tax assets of $76 and $54, respectively, that were not likely to be realized due to due to the timing of certain federal and state net operating loss limitations.

We are participating in the Compliance Assurance Process of the U.S. Internal Revenue Service (“IRS”) for 2021 which is expected to conclude during 2022. This program allows us to work with the IRS to identify and resolve potential U.S. Federal tax issues before the filing of tax returns. We are continuously audited by various taxing jurisdictions. There are no material assessments which we believe are probable at this time.

On February 1, 2021, Holdings entered into a tax sharing agreement with Liberty Media governing the allocation of consolidated U.S. income tax liabilities and setting forth agreements with respect to other tax matters.

Under the Internal Revenue Code, two corporations may form a consolidated tax group, and file a consolidated federal income tax return, if one corporation owns stock representing at least 80% of the voting power and value of the outstanding capital stock of the other corporation. As of June 30, 2021, Liberty Media beneficially owned, directly and indirectly, approximately 78% of the outstanding shares of our common stock. We expect that Liberty Media could beneficially own, directly and indirectly, over 80% of the outstanding shares of our common stock at some time in 2021, and Holdings and Liberty Media would then become members of the same consolidated tax group. Should that happen, the tax sharing agreement would govern certain matters related to the resulting consolidated federal income tax returns, as well as state and local returns filed on a consolidated or combined basis.

The tax sharing agreement contains provisions that Holdings believes are customary for tax sharing agreements between members of a consolidated group. The tax sharing agreement and our inclusion in Liberty Media’s consolidated tax group is not expected to have any material adverse effect on us.

(18) Segments and Geographic Information

In accordance with FASB ASC Topic 280, *Segment Reporting*, we disaggregate our operations into two reportable segments: Sirius XM and Pandora. The financial results of these segments are utilized by the chief operating decision maker, who is our Chief Executive Officer, for evaluating segment performance and allocating resources. We report our segment information based on the "management" approach. The management approach designates the internal reporting used by management for making decisions and assessing performance as the source of our reportable segments. For additional information on our segments refer to Note 1.

Segment results include the revenues and cost of services which are directly attributable to each segment. There are no indirect revenues or costs incurred that are allocated to the segments. There are planned intersegment advertising campaigns which will be eliminated. We had less than $1 of intersegment advertising revenue during each of the three and six months ended June 30, 2021 and 2020.

SIRIUS XM HOLDINGS INC. AND SUBSIDIARIES
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS - Continued
(UNAUDITED)
(Dollars and shares in millions, except per share amounts)

Segment revenue and gross profit were as follows during the period presented:

	For the Three Months Ended June 30, 2021		
	Sirius XM	Pandora	Total
Revenue			
Subscriber revenue	$ 1,508	$ 133	$ 1,641
Advertising revenue	46	383	429
Equipment revenue	51	—	51
Other revenue	38	—	38
Total revenue	1,643	516	2,159
Cost of services [a]	(647)	(323)	(970)
Segment gross profit	$ 996	$ 193	$ 1,189

The reconciliation between reportable segment gross profit to consolidated income before income tax is as follows:

	For the Three Months Ended June 30, 2021
Segment Gross Profit	$ 1,189
Subscriber acquisition costs	(89)
Sales and marketing [a]	(227)
Engineering, design and development [a]	(59)
General and administrative [a]	(114)
Depreciation and amortization	(131)
Share-based payment expense	(47)
Impairment, restructuring and acquisition costs	136
Total other (expense) income	(98)
Consolidated income before income taxes	$ 560

(a) Share-based payment expense of $12 related to cost of services, $13 related to sales and marketing, $6 related to engineering, design and development and $16 related to general and administrative has been excluded.

	For the Three Months Ended June 30, 2020		
	Sirius XM	Pandora	Total
ue			
scriber revenue	$ 1,453	$ 125	1,578
ertising revenue	25	211	236
ipment revenue	25	—	25
er revenue	35	—	35
evenue	1,538	336	1,874
f services [b]	(593)	(263)	(856)
nt gross profit	$ 945	$ 73	1,018

SIRIUS XM HOLDINGS INC. AND SUBSIDIARIES
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS - Continued
(UNAUDITED)
(Dollars and shares in millions, except per share amounts)

The reconciliation between reportable segment gross profit to consolidated income before income tax is as follows:

	For the Three Months Ended June 30, 2020
Segment Gross Profit	$ 1,018
Subscriber acquisition costs	(48)
Sales and marketing [(b)]	(201)
Engineering, design and development [(b)]	(52)
General and administrative [(b)]	(102)
Depreciation and amortization	(124)
Share-based payment expense	(52)
Impairment, restructuring and acquisition costs	(24)
Total other (expense) income	(98)
Consolidated income before income taxes	$ 317

(b) Share-based payment expense of $10 related to cost of services, $16 related to sales and marketing, $9 related to engineering, design and development and $17 related to general and administrative has been excluded.

	For the Six Months Ended June 30, 2021		
	Sirius XM	Pandora	Total
Revenue			
Subscriber revenue	$ 2,989	$ 263	$ 3,252
Advertising revenue	87	696	783
Equipment revenue	108	—	108
Other revenue	74	—	74
Total revenue	3,258	959	4,217
Cost of services [(c)]	(1,270)	(630)	(1,900)
Segment gross profit	$ 1,988	$ 329	$ 2,317

The reconciliation between reportable segment gross profit to consolidated income before income tax is as follows:

	For the Six Months Ended June 30, 2021
Segment Gross Profit	$ 2,317
Subscriber acquisition costs	(175)
Sales and marketing [(c)]	(428)
Engineering, design and development [(c)]	(113)
General and administrative [(c)]	(220)
Depreciation and amortization	(263)
Share-based payment expense	(98)
Impairment, restructuring and acquisition costs	(108)
Total other (expense) income	(195)
Consolidated income before income taxes	$ 717

(c) Share-based payment expense of $22 related to cost of services, $28 related to sales and marketing, $17 related to engineering, design and development and $31 related to general and administrative has been excluded.

SIRIUS XM HOLDINGS INC. AND SUBSIDIARIES
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS - Continued
(UNAUDITED)
(Dollars and shares in millions, except per share amounts)

	For the Six Months Ended June 30,2020		
	Sirius XM	Pandora	Total
ue			
scriber revenue	$ 2,9$10	$253	3,163
ertising revenue	69	452	521
ipment revenue	66	—	66
er revenue	76	—	76
evenue	3,121	705	3,826
f services [(d)]	(1,186)	(509)	(1,695)
nt gross profit	$ 1,9$5	$196	2,131

The reconciliation between reportable segment gross profit to consolidated income before income tax is as follows:

	For the Six Months Ended June 30, 2020
Segment Gross Profit	$ 2,131
Subscriber acquisition costs	(147)
Sales and marketing [(d)]	(409)
Engineering, design and development [(d)]	(112)
General and administrative [(d)]	(193)
Depreciation and amortization	(256)
Share-based payment expense	(107)
Impairment, restructuring and acquisition costs	(24)
Total other (expense) income	(193)
Consolidated income before income taxes	$ 690

(d) Share-based payment expense of $21 related to cost of services, $33 related to sales and marketing, $20 related to engineering, design and development and $33 related to general and administrative has been excluded.

A measure of segment assets is not currently provided to the Chief Executive Officer and has therefore not been provided.

As of June 30, 2021, long-lived assets were predominantly located in the United States. No individual foreign country represented a material portion of our consolidated revenue during the three and six months ended June 30, 2021 and 2020.

(19) Subsequent Events

Capital Return Program

For the period from July 1, 2021 to July 23, 2021 we repurchased 8 shares of our common stock on the open market for an aggregate purchase price of $55, including fees and commissions.

On July 19, 2021, our board of directors declared a quarterly dividend on our common stock in the amount of $0.014641 per share of common stock payable on August 30, 2021 to stockholders of record as of the close of business on August 6, 2021.

On July 19, 2021, our board of directors approved an additional $2,000 of common stock repurchases, increasing our total authorization to $18,000 since the inception of the program.

ITEM 2. MANAGEMENT'S DISCUSSION AND ANALYSIS OF FINANCIAL CONDITION AND RESULTS OF OPERATIONS

All amounts referenced in this Item 2 are in millions, except subscriber amounts are in thousands and per subscriber and per installation amounts are in ones, unless otherwise stated.

The following discussion and analysis of our financial condition and results of operations should be read in conjunction with our unaudited consolidated financial statements and related notes included elsewhere in this Quarterly Report on Form 10-Q and with our Annual Report on Form 10-K for the year ended December 31, 2020.

This Quarterly Report on Form 10-Q presents information for Sirius XM Holdings Inc. ("Holdings"). The terms "Holdings," "we," "us," "our," and "our company" as used herein, and unless otherwise stated or indicated by context, refer to Sirius XM Holdings Inc. and its subsidiaries. "Sirius XM" refers to our wholly owned subsidiary Sirius XM Radio Inc. and its subsidiaries. "Pandora" refers to Sirius XM's wholly owned subsidiary Pandora Media, LLC and its subsidiaries. Holdings has no operations independent of Sirius XM and Pandora.

Special Note Regarding Forward-Looking Statements

The following cautionary statements identify important factors that could cause our actual results to differ materially from those projected in forward-looking statements made in this Quarterly Report on Form 10-Q and in other reports and documents published by us from time to time. Any statements about our beliefs, plans, objectives, expectations, assumptions, future events or performance are not historical facts and may be forward-looking. These statements are often, but not always, made through the use of words or phrases such as "will likely result," "are expected to," "will continue," "is anticipated," "estimated," "intend," "plan," "projection" and "outlook." Any forward-looking statements are qualified in their entirety by reference to the factors discussed throughout this Quarterly Report on Form 10-Q and in other reports and documents published by us from time to time, including the risk factors described under "Risk Factors" in Part I, Item 1A, of our Annual Report on Form 10-K for the year ended December 31, 2020 and "Management's Discussion and Analysis of Financial Condition and Results of Operations" herein and in Part II, Item 7, of our Annual Report on Form 10-K for the year ended December 31, 2020.

Among the significant factors that could cause our actual results to differ materially from those expressed in the forward-looking statements are:

- We face substantial competition and that competition is likely to increase over time
- If our efforts to attract and retain subscribers and listeners, or convert listeners into subscribers, are not successful, our business will be adversely affected
- We engage in extensive marketing efforts and the continued effectiveness of those efforts is an important part of our business
- We rely on third parties for the operation of our business, and the failure of third parties to perform could adversely affect our business
- We may not realize the benefits of acquisitions or other strategic investments and initiatives
- A substantial number of our Sirius XM service subscribers periodically cancel their subscriptions and we cannot predict how successful we will be at retaining customers
- Our ability to profitably attract and retain subscribers to our Sirius XM service as our marketing efforts reach more price-sensitive consumers is uncertain
- Our business depends in part upon the auto industry; vehicle production and sales are dependent on many factors, including the availability of consumer credit, general economic conditions, consumer confidence, fuel costs and component supply shortages
- The impact of COVID-19, including its variant strains, on our business
- Failure of our satellites would significantly damage our business
- Our Sirius XM service may experience harmful interference from wireless operations
- Our Pandora ad-supported business has suffered a substantial and consistent loss of monthly active users, which may adversely affect our Pandora business
- Our failure to convince advertisers of the benefits of our Pandora ad-supported service could harm our business
- If we are unable to maintain revenue growth from our advertising products, particularly in mobile advertising, our results of operations will be adversely affected
- Changes to mobile operating systems and browsers may hinder our ability to sell advertising and market our services
- If we fail to accurately predict and play music, comedy or other content that our Pandora listeners enjoy, we may fail to retain existing and attract new listeners
- Privacy and data security laws and regulations may hinder our ability to market our services, sell advertising and impose legal liabilities
- Consumer protection laws and our failure to comply with them could damage our business
- Failure to comply with FCC requirements could damage our business

- If we fail to protect the security of personal information about our customers, we could be subject to costly government enforcement actions and private litigation and our reputation could suffer
- Interruption or failure of our information technology and communications systems could impair the delivery of our service and harm our business
- The market for music rights is changing and is subject to significant uncertainties
- Our Pandora services depend upon maintaining complex licenses with copyright owners, and these licenses contain onerous terms
- The rates we must pay for "mechanical rights" to use musical works on our Pandora service have increased substantially and these rates may adversely affect our business
- Our use of pre-1972 sound recordings on our Pandora service could result in additional costs
- Failure to protect our intellectual property or actions by third parties to enforce their intellectual property rights could substantially harm our business and operating results
- Some of our services and technologies may use "open source" software, which may restrict how we use or distribute our services or require that we release the source code subject to those licenses
- Rapid technological and industry changes and new entrants could adversely impact our services
- We have a significant amount of indebtedness, and our debt contains certain covenants that restrict our operations
- We are a "controlled company" within the meaning of the NASDAQ listing rules and, as a result, qualify for, and rely on, exemptions from certain corporate governance requirements
- While we currently pay a quarterly cash dividend to holders of our common stock, we may change our dividend policy at any time
- Our principal stockholder has significant influence, including over actions requiring stockholder approval, and its interests may differ from the interests of other holders of our common stock
- If we are unable to attract and retain qualified personnel, our business could be harmed
- Our facilities could be damaged by natural catastrophes or terrorist activities
- The unfavorable outcome of pending or future litigation could have an adverse impact on our operations and financial condition
- We may be exposed to liabilities that other entertainment service providers would not customarily be subject to
- Our business and prospects depend on the strength of our brands

Because the risk factors referred to above could cause actual results or outcomes to differ materially from those expressed in any forward-looking statements made by us or on our behalf, you should not place undue reliance on any of these forward-looking statements. In addition, any forward-looking statement speaks only as of the date on which it is made, and we undertake no obligation to update any forward-looking statement or statements to reflect events or circumstances after the date on which the statement is made, to reflect the occurrence of unanticipated events or otherwise, except as required by law. New factors emerge from time to time, and it is not possible for us to predict which will arise or to assess with any precision the impact of each factor on our business or the extent to which any factor, or combination of factors, may cause actual results to differ materially from those contained in any forward-looking statements.

Executive Summary

We operate two complementary audio entertainment businesses - our Sirius XM business and our Pandora business.

Sirius XM

Our Sirius XM business features music, sports, entertainment, comedy, talk, news, traffic and weather channels and other content, as well as podcasts and infotainment services, in the United States on a subscription fee basis. Sirius XM's premier content bundles include live, curated and certain exclusive and on demand programming. The Sirius XM service is distributed through our two proprietary satellite radio systems and streamed via applications for mobile devices, home devices and other consumer electronic equipment. Satellite radios are primarily distributed through automakers, retailers and our website. Our Sirius XM service is also available through our user interface, which we call "360L," that combines our satellite and streaming services into a single, cohesive in-vehicle entertainment experience.

The primary source of revenue from our Sirius XM business is subscription fees, with most of our customers subscribing to monthly, quarterly, semi-annual or annual plans. We also derive revenue from advertising on select non-music channels, which is sold under the SXM Media brand, direct sales of our satellite radios and accessories, and other ancillary services. As of June 30, 2021, our Sirius XM business had approximately 34.5 million subscribers.

In addition to our audio entertainment businesses, we provide connected vehicle services to several automakers. These services are designed to enhance the safety, security and driving experience of consumers. We also offer a suite of data services that includes graphical weather, fuel prices, sports schedules and scores and movie listings, a traffic information service that includes information as to road closings, traffic flow and incident data to consumers with compatible in-vehicle navigation systems, and real-time weather services in vehicles, boats and planes.

Sirius XM also holds a 70% equity interest and 33% voting interest in Sirius XM Canada Holdings Inc. ("Sirius XM Canada"). Sirius XM Canada's subscribers are not included in our subscriber count or subscriber-based operating metrics.

Pandora

Our Pandora business operates a music, comedy and podcast streaming discovery platform, offering a personalized experience for each listener wherever and whenever they want to listen, whether through mobile devices, car speakers or connected devices. Pandora enables listeners to create personalized stations and playlists, discover new content, hear artist- and expert-curated playlists, podcasts and select Sirius XM content as well as search and play songs and albums on-demand. Pandora is available as (1) an ad-supported radio service, (2) a radio subscription service (Pandora Plus) and (3) an on-demand subscription service (Pandora Premium). As of June 30, 2021, Pandora had approximately 6.6 million subscribers.

The majority of revenue from our Pandora business is generated from advertising on our Pandora ad-supported radio service which is sold under the SXM Media brand. We also derive subscription revenue from our Pandora Plus and Pandora Premium subscribers.

Our Pandora business also sells advertising on audio platforms and in podcasts unaffiliated with us. Pandora is the exclusive US ad sales representative for SoundCloud. Through this arrangement, Pandora offers advertisers the ability to execute campaigns in the US across the Pandora and SoundCloud listening platforms. We also have arrangements to serve as the ad sales representative for certain podcasts. In addition, through AdsWizz, Pandora provides a comprehensive digital audio advertising technology platform, which connects audio publishers and advertisers with a variety of ad insertion, campaign trafficking, yield optimization, programmatic buying, marketplace and podcast monetization solutions. As of June 30, 2021, our Pandora business had approximately 55.1 million monthly active users.

In February 2020, Sirius XM completed a $75 investment in SoundCloud. SoundCloud is a next-generation music entertainment company, powered by an ecosystem of artists, listeners, and curators on the pulse of what's new, now and next in culture. SoundCloud's platform enables its users to upload, promote, share and create audio entertainment. The minority investment complements the existing ad sales relationship between SoundCloud and Pandora.

In June 2020, Sirius XM acquired Simplecast for $28 in cash. Simplecast is a podcast management and analytics platform. Refer to Note 3 to our unaudited consolidated financial statements for more information on this acquisition.

In October 2020, Sirius XM acquired the assets of Stitcher from The E.W. Scripps Company and certain of its subsidiaries ("Scripps") for total consideration of $302, which included $266 in cash and $36 related to contingent consideration. As of June 30, 2021, we will potentially make up to $49 in additional payments to Scripps related to the contingent consideration based on Stitcher's 2020 results and its achievement of certain financial metrics in 2021. The acquisition of Stitcher, in conjunction with Simplecast, creates a full-service platform for podcast creators, publishers and advertisers. Refer to Note 3 to our unaudited consolidated financial statements for more information on this acquisition.

Liberty Media

As of June 30, 2021, Liberty Media beneficially owned, directly and indirectly, approximately 78% of the outstanding shares of our common stock. As a result, we are a "controlled company" for the purposes of the NASDAQ corporate governance requirements.

Results of Operations

Set forth below are our results of operations for the three and six months ended June 30, 2021 compared with the three and six months ended June 30, 2020. The results of operations are presented for each of our reporting segments for revenue and cost of services and on a consolidated basis for all other items.

	For the Three Months Ended June 30,		For the Six Months Ended June 30,		2021 vs 2020 Change			
					Three Months		Six Months	
	2021	2020	2021	2020	Amount	%	Amount	%
Revenue								
Sirius XM:								
Subscriber revenue	$ 1,508	$ 1,453	$ 2,989	$ 2,910	$ 55	4 %	$ 79	3 %
Advertising revenue	46	25	87	69	21	84 %	18	26 %
Equipment revenue	51	25	108	66	26	104 %	42	64 %
Other revenue	38	35	74	76	3	9 %	(2)	(3)%
Total Sirius XM revenue	1,643	1,538	3,258	3,121	105	7 %	137	4 %
Pandora:								
Subscriber revenue	133	125	263	253	8	6 %	10	4 %
Advertising revenue	383	211	696	452	172	82 %	244	54 %
Total Pandora revenue	516	336	959	705	180	54 %	254	36 %
Total consolidated revenue	2,159	1,874	4,217	3,826	285	15 %	391	10 %
Cost of services								
Sirius XM:								
Revenue share and royalties	387	365	766	731	22	6 %	35	5 %
Programming and content	125	104	243	216	21	20 %	27	13 %
Customer service and billing	105	99	202	192	6	6 %	10	5 %
Transmission	36	30	70	57	6	20 %	13	23 %
Cost of equipment	4	4	9	8	—	— %	1	13 %
Total Sirius XM cost of services	657	602	1,290	1,204	55	9 %	86	7 %
Pandora:								
Revenue share and royalties	275	222	537	426	53	24 %	111	26 %
Programming and content	11	6	22	12	5	83 %	10	83 %
Customer service and billing	23	23	42	48	—	— %	(6)	(13)%
Transmission	16	13	31	26	3	23 %	5	19 %
Total Pandora cost of services	325	264	632	512	61	23 %	120	23 %
Total consolidated cost of services	982	866	1,922	1,716	116	13 %	206	12 %
Subscriber acquisition costs	89	48	175	147	41	85 %	28	19 %
Sales and marketing	240	217	456	442	23	11 %	14	3 %
Engineering, design and development	65	61	130	132	4	7 %	(2)	(2)%
General and administrative	130	119	251	226	11	9 %	25	11 %
Depreciation and amortization	131	124	263	256	7	6 %	7	3 %
Impairment, restructuring and acquisition costs	(136)	24	108	24	(160)	(667)%	84	350 %
Total operating expenses	1,501	1,459	3,305	2,943	42	3 %	362	12 %
Income from operations	658	415	912	883	243	59 %	29	3 %
Other (expense) income:								
Interest expense	(103)	(102)	(203)	(201)	(1)	(1)%	(2)	(1)%
Other income	5	4	8	8	1	25 %	—	— %
Total other (expense) income	(98)	(98)	(195)	(193)	—	— %	(2)	(1)%
Income before income taxes	560	317	717	690	243	77 %	27	4 %
Income tax expense	(127)	(74)	(65)	(154)	(53)	(72)%	89	58 %
Net income	$ 433	$ 243	$ 652	$ 536	$ 190	78 %	$ 116	22 %

Sirius XM Revenue

Sirius XM Subscriber Revenue includes fees charged for self-pay and paid promotional subscriptions, U.S. Music Royalty Fees and other ancillary fees.

For the three months ended June 30, 2021 and 2020, subscriber revenue was $1,508 and $1,453, respectively, an increase of 4%, or $55. For the six months ended June 30, 2021 and 2020, subscriber revenue was $2,989 and $2,910, respectively, an increase of 3% or $79. The increases were primarily driven by growth in our self-pay subscriber base of 3% driving higher self-pay revenue and U.S. Music Royalty Fees, partially offset by lower revenue generated from automakers offering paid promotional subscriptions.

We expect subscriber revenues to increase based on the growth of our self-pay subscriber base, increases in the average price charged and the sale of additional services to subscribers.

Sirius XM Advertising Revenue includes the sale of advertising on Sirius XM's non-music channels.

For the three months ended June 30, 2021 and 2020, advertising revenue was $46 and $25, respectively, an increase of 84%, or $21. For the six months ended June 30, 2021 and 2020, advertising revenue was $87 and $69, respectively, an increase of 26% or $18. The increases were due to higher advertising as we continue to recover to pre-COVID-19 levels primarily on news and sports channels.

We expect our Sirius XM advertising revenue to grow as we continue our recovery to pre-COVID-19 levels.

Sirius XM Equipment Revenue includes revenue and royalties from the sale of satellite radios, components and accessories.

For the three months ended June 30, 2021 and 2020, equipment revenue was $51 and $25, respectively, an increase of 104%, or $26. For the six months ended June 30, 2021 and 2020, equipment revenue was $108 and $66, respectively, an increase of 64% or $42. The increases were driven by higher royalty revenue from new vehicle production as automakers pushed to get back to pre-COVID-19 manufacturing levels and due to our transition to a new generation of chipsets.

We expect equipment revenue to remain relatively flat as volume of chipsets sold increases, offset by lower revenue per unit sold.

Sirius XM Other Revenue includes service and advisory revenue from Sirius XM Canada, our connected vehicle services, and ancillary revenues.

For the three months ended June 30, 2021 and 2020, other revenue was $38 and $35, respectively, an increase of 9%, or $3. For the six months ended June 30, 2021 and 2020, other revenue was $74 and $76, respectively, a decrease of 3% or $2. The increase for the three month period was primarily driven by higher revenue generated by our connected vehicle services and Sirius XM Canada. The decrease for the six month period was primarily driven by lower revenue generated by our rental car arrangements.

We expect other revenue to remain relatively flat.

Pandora Revenue

Pandora Subscriber Revenue includes fees charged for Pandora Plus and Pandora Premium subscriptions as well as Stitcher podcast subscriptions.

For the three months ended June 30, 2021 and 2020, Pandora subscriber revenue was $133 and $125, respectively, an increase of 6%, or $8. For the six months ended June 30, 2021 and 2020, Pandora subscriber revenue was $263 and $253, respectively, an increase of 4% or $10. The increases were primarily driven by growth in our subscriber base and the inclusion of Stitcher.

We expect Pandora subscriber revenues to remain relatively flat.

Pandora Advertising Revenue is generated primarily from audio, display and video advertising from on-platform and off-platform advertising.

For the three months ended June 30, 2021 and 2020, Pandora advertising revenue was $383 and $211, respectively, an increase of 82%, or $172. For the six months ended June 30, 2021 and 2020, Pandora advertising revenue was $696 and $452, respectively, an increase of 54% or $244. The increases were primarily due to growth in Pandora owned and operated revenue from higher sell-through, increases in the price of advertising sold, the inclusion of Stitcher as well as increased revenue from AdsWizz.

We expect our advertising revenue to increase due to off-platform advertising opportunities.

Total Consolidated Revenue

Total Consolidated Revenue for the three months ended June 30, 2021 and 2020, was $2,159 and $1,874, respectively, an increase of 15%, or $285. Total Consolidated Revenue for the six months ended June 30, 2021 and 2020, was $4,217 and $3,826, respectively, an increase of 10% or $391.

Sirius XM Cost of Services

Sirius XM Cost of Services includes revenue share and royalties, programming and content, customer service and billing, transmission and equipment expenses.

Sirius XM Revenue Share and Royalties include royalties for transmitting content, including streaming royalties, as well as automaker, content provider and advertising revenue share.

For the three months ended June 30, 2021 and 2020, revenue share and royalties were $387 and $365, respectively, an increase of 6%, or $22, but decreased as a percentage of total Sirius XM revenue. For the six months ended June 30, 2021 and 2020, revenue share and royalties were $766 and $731, respectively, an increase of 5% or $35, and increased as a percentage of total Sirius XM revenue. The increases were driven by overall greater revenues subject to music royalties and revenue share.

We expect our Sirius XM revenue share and royalty costs to increase as our revenues grow.

Sirius XM Programming and Content includes costs to acquire, create, promote and produce content. We have entered into various agreements with third parties for music and non-music programming that require us to pay license fees and other amounts.

For the three months ended June 30, 2021 and 2020, programming and content expenses were $125 and $104, respectively, an increase of 20%, or $21, and increased as a percentage of total Sirius XM revenue. For the six months ended June 30, 2021 and 2020, programming and content expenses were $243 and $216, respectively, an increase of 13% or $27, and increased as a percentage of total Sirius XM revenue. The increases were driven by higher content licensing costs.

We expect our Sirius XM programming and content expenses to increase as we offer additional programming and renew or replace expiring agreements.

Sirius XM Customer Service and Billing includes costs associated with the operation and management of internal and third-party customer service centers, and our subscriber management systems as well as billing and collection costs, bad debt expense, and transaction fees.

For the three months ended June 30, 2021 and 2020, customer service and billing expenses were $105 and $99, respectively, an increase of 6%, or $6, but decreased as a percentage of total Sirius XM revenue. For the six months ended June 30, 2021 and 2020, customer service and billing expenses were $202 and $192, respectively, an increase of 5%, or $10, and increased as a percentage of total Sirius XM revenue. The increases were driven by higher transaction costs, partially offset by lower bad debt expense.

We expect our Sirius XM customer service and billing expenses to increase as our subscriber base grows.

Sirius XM Transmission consists of costs associated with the operation and maintenance of our terrestrial repeater networks; satellites; satellite telemetry, tracking and control systems; satellite uplink facilities; studios; and delivery of our Internet streaming and connected vehicle services.

For the three months ended June 30, 2021 and 2020, transmission expenses were $36 and $30, respectively, an increase of 20%, or $6, and increased as a percentage of total Sirius XM revenue. For the six months ended June 30, 2021 and 2020, transmission expenses were $70 and $57, respectively, an increase of 23%, or $13, and increased as a percentage of total Sirius XM revenue. The increases were primarily driven by higher cloud hosting and wireless costs associated with our 360L platform, streaming content and our connected vehicle services.

We expect our Sirius XM transmission expenses to increase as costs associated with our 360L platform and investments in internet streaming grow.

Sirius XM Cost of Equipment includes costs from the sale of satellite radios, components and accessories and provisions for inventory allowance attributable to products purchased for resale in our direct to consumer distribution channels.

For each of the three months ended June 30, 2021 and 2020, cost of equipment was $4. For the six months ended June 30, 2021 and 2020, cost of equipment was $9 and $8, respectively, an increase of 13% or $1, and increased as a percentage of total Sirius XM revenue. The increase for the six month period was driven by higher inventory reserves.

We expect our Sirius XM cost of equipment to fluctuate with the sales of our satellite radios.

Pandora Cost of Services

Pandora Cost of Services includes revenue share and royalties, programming and content, customer service and billing, and transmission expenses.

Pandora Revenue Share and Royalties includes licensing fees paid for streaming music or other content to our subscribers and listeners as well as revenue share paid to third party ad servers. We make payments to third party ad servers for the period the advertising impressions are delivered or click-through actions occur, and accordingly, we record this as a cost of service in the related period.

For the three months ended June 30, 2021 and 2020, revenue share and royalties were $275 and $222, respectively, an increase of 24%, or $53, but decreased as a percentage of total Pandora revenue. For the six months ended June 30, 2021 and 2020, revenue share and royalties were $537 and $426, respectively, an increase of 26%, or $111, but decreased as a percentage of total Pandora revenue. The increases were primarily due to higher royalty rates, owned and operated revenue as well as higher AdsWizz revenue, the inclusion of Stitcher and the growth in other off-platform revenue.

We expect our Pandora revenue share to increase as off-platform revenue increases and our royalty costs to increase due to higher music royalty rates.

Pandora Programming and Content includes costs to produce live listener events and promote content.

For the three months ended June 30, 2021 and 2020, programming and content expenses were $11 and $6, respectively, an increase of 83%, or $5, and increased as a percentage of total Pandora revenue. For the six months ended June 30, 2021 and 2020, programming and content expenses were $22 and $12, respectively, an increase of 83%, or $10, and increased as a percentage of total Pandora revenue. The increases were primarily attributable to higher license and production costs driven by the inclusion of Stitcher.

We expect our Pandora programming and content costs to increase as we offer additional programming and continue to produce live listener events and promotions.

Pandora Customer Service and Billing includes transaction fees on subscription purchases through mobile app stores, and bad debt expense.

For each of the three months ended June 30, 2021 and 2020, customer service and billing expenses were $23. For the six months ended June 30, 2021 and 2020, customer service and billing expenses were $42 and $48, respectively, a decrease of 13%, or $6, and decreased as a percentage of total Pandora revenue. The decrease was primarily driven by lower bad debt expense.

We expect our Pandora customer service and billing costs to increase as our advertising revenue grows.

Pandora Transmission includes costs associated with content streaming, maintaining our streaming radio and on-demand subscription services and creating and serving advertisements through third-party ad servers.

For the three months ended June 30, 2021 and 2020, transmission expenses were $16 and $13, respectively, an increase of 23%, or $3, but decreased as a percentage of total Pandora revenue. For the six months ended June 30, 2021 and 2020, transmission expenses were $31 and $26, respectively, an increase of 19%, or $5, but decreased as a percentage of total Pandora revenue. The increases were driven by higher streaming costs.

We expect our Pandora transmission costs to fluctuate with changes in listener hours.

Operating Costs

Subscriber Acquisition Costs are costs associated with our satellite radio service and include hardware subsidies paid to radio manufacturers, distributors and automakers; subsidies paid for chipsets and certain other components used in manufacturing radios; device royalties for certain radios and chipsets; product warranty obligations; and freight. The majority of subscriber acquisition costs are incurred and expensed in advance of acquiring a subscriber. Subscriber acquisition costs do not include advertising costs, marketing, loyalty payments to distributors and dealers of satellite radios or revenue share payments to automakers and retailers of satellite radios.

For the three months ended June 30, 2021 and 2020, subscriber acquisition costs were $89 and $48, respectively, an increase of 85%, or $41, and increased as a percentage of total revenue. For the six months ended June 30, 2021 and 2020, subscriber acquisition costs were $175 and $147, respectively, an increase of 19%, or $28, and increased as a percentage of total revenue. The increases were driven by higher OEM installations following factory shutdowns in the second quarter of 2020 associated with the COVID-19 pandemic; partially offset by lower subsidies from contract improvements with certain automakers and, to a lesser extent, lower costs resulting from silicon supply constraints in 2021.

We expect subscriber acquisition costs to fluctuate with OEM installations. We intend to continue to offer subsidies and other incentives to induce OEMs to include our technology in their vehicles.

Sales and Marketing includes costs for marketing, advertising, media and production, including promotional events and sponsorships; cooperative and artist marketing; and personnel related costs including salaries, commissions, and sales support. Marketing costs include expenses related to direct mail, outbound telemarketing, email communications, social media, television and digital performance media.

For the three months ended June 30, 2021 and 2020, sales and marketing expenses were $240 and $217, respectively, an increase of 11%, or $23, but decreased as a percentage of total revenue. For the six months ended June 30, 2021 and 2020, sales and marketing expenses were $456 and $442, respectively, an increase of 3%, or $14, but decreased as a percentage of total revenue. The increase for the three month period was primarily due to higher personnel-related costs and trial-related direct marketing costs. The increase for the six month period was primarily due to higher personnel-related costs.

We anticipate that sales and marketing expenses will increase as we expand programs to retain our existing subscribers, win back former subscribers, and attract new subscribers and listeners.

Engineering, Design and Development consists primarily of compensation and related costs to develop chipsets and new products and services, including streaming and connected vehicle services, research and development for broadcast information systems and the design and development costs to incorporate Sirius XM radios into new vehicles manufactured by automakers.

For the three months ended June 30, 2021 and 2020, engineering, design and development expenses were $65 and $61, respectively, an increase of 7%, or $4, but decreased as a percentage of total revenue. For the six months ended June 30, 2021 and 2020, engineering, design and development expenses were $130 and $132, respectively, a decrease of 2%, or $2, and decreased as a percentage of total revenue. The increase for the three month period was driven by higher personnel-related costs partially offset by lower research and development costs. The decrease for the six month period was driven by lower research and development costs, partially offset by higher personnel-related costs.

We expect engineering, design and development expenses to increase in future periods as we continue to develop our infrastructure, products and services.

General and Administrative primarily consists of compensation and related costs for personnel and facilities, and include costs related to our finance, legal, human resources and information technologies departments.

For the three months ended June 30, 2021 and 2020, general and administrative expenses were $130 and $119, respectively, an increase of 9%, or $11, but decreased as a percentage of total revenue. For the six months ended June 30, 2021 and 2020, general and administrative expenses were $251 and $226, respectively, an increase of 11%, or $25, and increased as a percentage of total revenue. The increase for the three month period was driven by the closure of a sales and use tax audit in 2020 which resulted in lower tax expense during the three months ended June 30, 2020, and higher personnel-related and consulting costs. The increase for the six month period was primarily driven by the closure of a sales and use tax audit in 2020 which resulted in lower tax expense during the six months ended June 30, 2020, gains recorded on our deferred compensation investments during the six months ended June 30, 2021 compared to losses recorded on our deferred compensation investments during the six months ended June 30, 2020 as well as higher personnel-related, consulting and technology related costs.

We expect our general and administrative expenses to increase to support the growth of our business.

Depreciation and Amortization represents the recognition in earnings of the cost of assets used in operations, including our satellite constellations, property, equipment and intangible assets, over their estimated service lives.

For the three months ended June 30, 2021 and 2020, depreciation and amortization expense was $131 and $124, respectively. For the six months ended June 30, 2021 and 2020, depreciation and amortization expense was $263 and $256, respectively. The increases were primarily driven by developed software placed in service.

Impairment, Restructuring and Acquisition Costs represents impairment charges, net of insurance recoveries, associated with the carrying amount of an asset exceeding the asset's fair value, and restructuring expenses associated with the abandonment of certain leased office spaces.

For the three months ended June 30, 2021 and 2020, impairment, restructuring and acquisition costs were $(136) and $24, respectively. For the six months ended June 30, 2021 and 2020, impairment, restructuring and acquisition costs were $108 and $24, respectively. During the three months ended June 30, 2021, we recorded insurance recoveries related to our SXM-7 satellite of $140 which was partially offset by acquisition and restructuring costs of $3. During the six month period ended June 30, 2021, we also recorded $220 to write down the value of our SXM-7 satellite after it experienced failures of certain payload units during in-orbit testing, and restructuring costs of $25 resulting from the termination of leased office space. During the three and six months ended June 30, 2020, we recorded costs of $24 associated with the termination of the Automatic service and costs associated with the acquisition of Simplecast.

Other (Expense) Income

Interest Expense includes interest on outstanding debt.

For the three months ended June 30, 2021 and 2020, interest expense was $103 and $102, respectively. For the six months ended June 30, 2021 and 2020, interest expense was $203 and $201, respectively. The increases were primarily driven by a higher average outstanding balance on our Credit Facility and to the issuance of our 4.000% Senior Notes due 2028 as well as lower capitalized interest, partially offset by lower interest rates.

Other Income primarily includes realized and unrealized gains and losses from our Deferred Compensation Plan and other investments, interest and dividend income, our share of the income or loss from equity investments in Sirius XM Canada and SoundCloud, and transaction costs related to non-operating investments.

For the three months ended June 30, 2021 and 2020, other income was $5 and $4, respectively. For each of the six months ended June 30, 2021 and 2020, other income was $8. For the three and six months ended June 30, 2021, we recorded our share of Sirius XM Canada's net income, interest earned on our loan to Sirius XM Canada, and trading gains associated with the investments held for our Deferred Compensation Plan; partially offset by losses on other investments. For the three and six months ended June 30, 2020, we recorded our share of Sirius XM Canada's net income and interest earned on our loan to Sirius XM Canada; partially offset by trading losses associated with the

investments held for our Deferred Compensation Plan and losses on other investments. During the six months ended June 30, 2020, we also recorded a one-time lawsuit settlement of $7.

Income Taxes

Income Tax Expense includes the change in our deferred tax assets, current federal and state tax expenses, and foreign withholding taxes.

For the three months ended June 30, 2021 and 2020, income tax expense was $127 and $74, respectively. For the six months ended June 30, 2021 and 2020, income tax expense was $65 and $154, respectively.

Our effective tax rate for the three months ended June 30, 2021 and 2020 was 22.7% and 23.3%, respectively. Our effective tax rate for the six months ended June 30, 2021 and 2020 was 9.1% and 22.3%, respectively. The effective tax rate for the three months ended June 30, 2021 was primarily impacted by the recognition of excess tax benefits related to share-based compensation. The effective tax rate for the six months ended June 30, 2021 was primarily impacted by a $95 benefit associated with a state tax audit settlement. The effective tax rates for the three and six months ended June 30, 2020 were primarily impacted by federal and state tax credits and the recognition of excess tax benefits related to share-based compensation. We estimate our effective tax rate for the year ending December 31, 2021 will be approximately 17%.

Key Financial and Operating Performance Metrics

In this section, we present certain financial performance measures, some of which are presented as Non-GAAP items, which include free cash flow and adjusted EBITDA. We also present certain operating performance measures. Our adjusted EBITDA excludes the impact of share-based payment expense and certain purchase price accounting adjustments related to the merger of Sirius and XM ("XM Merger") and our February 2019 acquisition of Pandora ("the Pandora Acquisition"). Additionally, when applicable, our adjusted EBITDA metric excludes the effect of significant items that do not relate to the on-going performance of our business. We use these Non-GAAP financial and operating performance measures to manage our business, to set operational goals and as a basis for determining performance-based compensation for our employees. See the accompanying glossary on pages 48 through 51 for more details and for the reconciliation to the most directly comparable GAAP measure (where applicable).

We believe these Non-GAAP financial and operating performance measures provide useful information to investors regarding our financial condition and results of operations. We believe these Non-GAAP financial and operating performance measures may be useful to investors in evaluating our core trends because they provide a more direct view of our underlying costs. We believe investors may use our adjusted EBITDA to estimate our current enterprise value and to make investment decisions. We believe free cash flow provides useful supplemental information to investors regarding our cash available for future subscriber acquisitions and capital expenditures, to repurchase or retire debt, to acquire other companies and our ability to return capital to stockholders. By providing these Non-GAAP financial and operating performance measures, together with the reconciliations to the most directly comparable GAAP measure (where applicable), we believe we are enhancing investors' understanding of our business and our results of operations.

Our Non-GAAP financial measures should be viewed in addition to, and not as an alternative for or superior to, our reported results prepared in accordance with GAAP. In addition, our Non-GAAP financial measures may not be comparable to similarly-titled measures by other companies. Please refer to the glossary (pages 48 through 51) for a further discussion of such Non-GAAP financial and operating performance measures and reconciliations to the most directly comparable GAAP measure (where applicable). Subscribers and subscription related revenues and expenses associated with our connected vehicle services and Sirius XM Canada are not included in Sirius XM's subscriber count or subscriber-based operating metrics.

Set forth below are our subscriber balances as of June 30, 2021 compared to June 30, 2020.

	As of June 30,		2021 vs 2020 Change	
(subscribers in thousands)	2021	2020	Amount	%
Sirius XM				
Self-pay subscribers	31,368	30,311	1,057	3 %
Paid promotional subscribers	3,108	3,939	(831)	(21)%
Ending subscribers	34,476	34,250	226	1 %
Traffic users	9,234	9,414	(180)	(2)%
Sirius XM Canada subscribers	2,578	2,607	(29)	(1)%
Pandora				
Monthly active users - all services	55,137	59,604	(4,467)	(7)%
Self-pay subscribers	6,510	6,246	264	4 %
Paid promotional subscribers	67	56	11	20 %
Ending subscribers	6,577	6,302	275	4 %

The following table contains our Non-GAAP financial and operating performance measures which are based on our adjusted results of operations for the three and six months ended June 30, 2021 and 2020.

	For the Three Months Ended June 30,		For the Six Months Ended June 30,		2021 vs 2020 Change			
					Three Months		Six Months	
(subscribers in thousands)	2021	2020	2021	2020	Amount	%	Amount	%
Sirius XM								
Self-pay subscribers	355	264	481	333	91	34 %	148	44 %
Paid promotional subscribers	(378)	(780)	(719)	(992)	402	52 %	273	28 %
Net additions	(23)	(516)	(238)	(659)	493	96 %	421	(64)%
Weighted average number of subscribers	34,473	34,288	34,468	34,556	185	1 %	(88)	— %
Average self-pay monthly churn	1.5 %	1.6 %	1.6 %	1.7 %	(0.1)%	(6)%	(0.1)%	(6)%
ARPU [1]	$ 14.57	$ 13.96	$ 14.43	$ 13.95	$ 0.61	4 %	$ 0.48	3 %
SAC, per installation	$ 15.20	$ 20.14	$ 12.93	$ 20.14	$ (4.94)	(25)%	$ (7.21)	(36)%
Pandora								
Self-pay subscribers	118	32	231	81	86	269 %	150	185 %
Paid promotional subscribers	3	4	5	7	(1)	(25)%	(2)	29 %
Net additions	121	36	236	88	85	236 %	148	(168)%
Weighted average number of subscribers	6,518	6,223	6,451	6,233	295	5 %	218	3 %
ARPU	$ 6.67	$ 6.70	$ 6.67	$ 6.77	$ (0.03)	— %	$ (0.10)	(1)%
Ad supported listener hours (in billions)	3.03	3.29	5.90	6.41	(0.26)	(8)%	(0.51)	(8)%
Advertising revenue per thousand listener hours (RPM)	$ 100.35	$ 55.23	$ 93.26	$ 61.23	$ 45.12	82 %	$ 32.03	52 %
Licensing costs per thousand listener hours (LPM)	$ 44.46	$ 37.16	$ 44.89	$ 37.12	$ 7.30	20 %	$ 7.77	21 %
Licensing costs per paid subscriber (LPU)	$ 4.18	$ 4.06	$ 4.19	$ 4.08	$ 0.12	3 %	$ 0.11	3 %
Total Company								
Adjusted EBITDA	$ 700	$ 615	$ 1,381	$ 1,254	$ 85	14 %	$ 127	10 %
Free cash flow	$ 550	$ 503	$ 761	$ 851	$ 47	9 %	$ (90)	(11)%

(1) ARPU for Sirius XM excludes subscriber revenue from our connected vehicle services of $47 and $42 for the three months ended June 30, 2021 and 2020, respectively, and $92 and $86 for the six months ended June 30, 2021 and 2020, respectively.

Sirius XM

Subscribers. At June 30, 2021, Sirius XM had approximately 34,476 subscribers, an increase of 226, from the approximately 34,250 subscribers as of June 30, 2020. The increase was due to the growth in our self-pay subscriber base as a result of vehicle sales growth, lower churn rate, and higher new vehicle penetration rate, partially offset by the decrease in paid promotional subscribers generated by automakers driven by a shift to shorter paid trials and unpaid trials.

For the three months ended June 30, 2021 and 2020, net subscriber additions were (23) and (516), respectively. For the six months ended June 30, 2021 and 2020, net subscriber additions were (238) and (659), respectively. Paid promotional subscribers decreased due to a shift to shorter paid or free trials at certain automakers, and to a lesser extent, lower vehicle shipments due to silicon supply constraints. Self-pay net additions increased driven by higher conversion from vehicle sales growth and lower non-pay churn and voluntary churn.

Traffic Users. We offer services that provide graphic information as to road closings, traffic flow and incident data to consumers with compatible in-vehicle navigation systems. At June 30, 2021, Sirius XM had approximately 9,234 traffic users, a decrease of 180 users, or 2%, from the approximately 9,414 traffic users as of June 30, 2020.

Sirius XM Canada Subscribers. At June 30, 2021, Sirius XM Canada had approximately 2,578 subscribers, a decrease of 29, or 1%, from the approximately 2,607 Sirius XM Canada subscribers as of June 30, 2020.

Average Self-pay Monthly Churn is derived by dividing the monthly average of self-pay deactivations for the period by the average number of self-pay subscribers for the period. (See accompanying glossary on pages 48 through 51 for more details.)

For the three months ended June 30, 2021 and 2020, our average self-pay monthly churn rate was 1.5% and 1.6%, respectively. For the six months ended June 30, 2021 and 2020, our average self-pay monthly churn rate was 1.6% and 1.7%, respectively. The decreases were driven by lower non-pay churn and voluntary churn.

ARPU is derived from total earned Sirius XM subscriber revenue (excluding revenue derived from our connected vehicle services) and net advertising revenue, divided by the number of months in the period, divided by the daily weighted average number of subscribers for the period. (See the accompanying glossary on pages 48 through 51 for more details.)

For the three months ended June 30, 2021 and 2020, subscriber ARPU - Sirius XM was $14.57 and $13.96, respectively. For the six months ended June 30, 2021 and 2020, subscriber ARPU - Sirius XM was $14.43 and $13.95, respectively. The increases were driven by higher advertising revenue as we continue to recover to pre-COVID-19 levels, the decline in paid trials, and an increase in certain subscription rates and the U.S. Music Royalty Fee .

SAC, Per Installation, is derived from subscriber acquisition costs and margins from the sale of radios, components and accessories (excluding connected vehicle services), divided by the number of satellite radio installations in new vehicles and shipments of aftermarket radios for the period. (See the accompanying glossary on pages 48 through 51 for more details.)

For the three months ended June 30, 2021 and 2020, SAC, per installation, was $15.20 and $20.14, respectively. For the six months ended June 30, 2021 and 2020, SAC, per installation, was $12.93 and $20.14, respectively. The decreases were driven by reductions to OEM hardware subsidy rates.

Pandora

Monthly Active Users. At June 30, 2021, Pandora had approximately 55,137 monthly active users, a decrease of 4,467 monthly active users, or 7%, from the 59,604 monthly active users as of June 30, 2020. The decrease in monthly active users was driven by a decline in the number of new users.

Subscribers. At June 30, 2021, Pandora had approximately 6,577 subscribers, an increase of 275, or 4%, from the approximately 6,302 subscribers as of June 30, 2020.

For the three months ended June 30, 2021 and 2020, net subscriber additions were 121 and 36, respectively. For the six months ended June 30, 2021 and 2020, net subscriber additions were 236 and 88, respectively. The increases were a function of lower churn.

ARPU is defined as average monthly revenue per paid subscriber on our Pandora subscription services. (See the accompanying glossary on pages 48 through 51 for more details.)

For the three months ended June 30, 2021 and 2020, subscriber ARPU - Pandora was $6.67 and $6.70, respectively. For the six months ended June 30, 2021 and 2020, subscriber ARPU - Pandora was $6.67 and $6.77, respectively. The decreases in subscriber ARPU were primarily due to the mix of Pandora's premium plans.

Ad supported listener hours are a key indicator of our Pandora business and the engagement of our Pandora listeners. We include ad supported listener hours related to Pandora's non-radio content offerings in the definition of listener hours.

For the three months ended June 30, 2021 and 2020, ad supported listener hours were 3,029 and 3,286, respectively. For the six months ended June 30, 2021 and 2020, ad supported listener hours were 5,895 and 6,412, respectively. The decreases in ad supported listener hours were primarily driven by the decline in monthly active users, partially offset by higher hours per active user.

RPM is a key indicator of our ability to monetize advertising inventory created by our listener hours on the Pandora services. Ad RPM is calculated by dividing advertising revenue by the number of thousands of listener hours of our Pandora advertising-based service.

For the three months ended June 30, 2021 and 2020, RPM was $100.35 and $55.23, respectively. For the six months ended June 30, 2021 and 2020, RPM was $93.26 and $61.23, respectively. The increases were the result of higher sell-through and pricing combined with lower listener hours.

LPM is tracked for our non-subscription, ad-supported service across all Pandora delivery platforms. The content acquisition costs included in our ad LPM calculations are based on the rates set by our license agreements with record labels, performing rights organizations and music publishers or the applicable rates set by the Copyright Royalty Board if we have not entered into a license agreement with the copyright owner of a particular sound recording.

For the three months ended June 30, 2021 and 2020, LPM was $44.46 and $37.16, respectively. For the six months ended June 30, 2021 and 2020, LPM was $44.89 and $37.12, respectively. The increases were primarily due to the provisions of certain direct licenses between Pandora and the owners of copyrights in sound recordings which require Pandora, under certain circumstances, to pay royalties on the greater of a percentage of its applicable revenue or a per play per consumer basis as well as higher statutory webcasting royalty rates.

LPU is defined as average monthly licensing costs per paid subscriber on our Pandora subscription services. LPU is a key measure of our ability to manage costs for our subscription services.

For the three months ended June 30, 2021 and 2020, LPU was $4.18 and $4.06, respectively. For the six months ended June 30, 2021 and 2020, LPU was $4.19 and $4.08, respectively. The increases were due to lower minimum guarantees during the three and six months ended June 30, 2020 as well as higher statutory webcasting royalty rates in 2021.

Total Company

*Adjusted EBITDA. A*djusted EBITDA is defined as net income before interest expense, income tax expense and depreciation and amortization. Adjusted EBITDA excludes the impact of other expense (income), loss on extinguishment of debt, other non-cash charges, such as certain purchase price accounting adjustments, share-based payment expense, legal settlements and reserves, and impairment, restructuring and acquisition costs (if applicable). (See the accompanying glossary on pages 48 through 51 for a reconciliation to GAAP and for more details.)

For the three months ended June 30, 2021 and 2020, adjusted EBITDA was $700 and $615, respectively, an increase of 14%, or $85. For the six months ended June 30, 2021 and 2020, adjusted EBITDA was $1,381 and $1,254, respectively, an increase of 10%, or $127. The increases were driven by higher advertising, subscriber and equipment revenue, partially offset by higher revenue share and royalties, subscriber acquisition, and programming costs.

Free Cash Flow includes cash provided by operations, net of additions to property and equipment, and restricted and other investment activity. (See the accompanying glossary on pages 48 through 51 for a reconciliation to GAAP and for more details.)

For the three months ended June 30, 2021 and 2020, free cash flow was $550 and $503, respectively, an increase of $47, or 9%. For the six months ended June 30, 2021 and 2020, free cash flow was $761 and $851, respectively, a decrease of $90 or 11%. The increase for the three month period was driven by increased operating performance, lower interest payments and lower vendor spend; partially offset by lower OEM receipts. The decrease for the six month period was driven by lower OEM receipts and higher spending on property and equipment.

Liquidity and Capital Resources

Cash Flows for the six months ended June 30, 2021 compared with the six months ended June 30, 2020.

The following table presents a summary of our cash flow activity for the periods set forth below:

	For the Six Months Ended June 30,		2021 vs 2020
	2021	2020	Amount
Net cash provided by operating activities	$ 928	$ 1,007	$ (79)
Net cash used in investing activities	(190)	(265)	75
Net cash provided by financing activities	311	919	(608)
Net increase in cash, cash equivalents and restricted cash	1,049	1,661	(612)
Cash, cash equivalents and restricted cash at beginning of period	83	120	(37)
Cash, cash equivalents and restricted cash at end of period	$ 1,132	$ 1,781	$ (649)

Cash Flows Provided by Operating Activities

Cash flows provided by operating activities decreased by $79 to $928 for the six months ended June 30, 2021 from $1,007 for the six months ended June 30, 2020.

Our largest source of cash provided by operating activities is cash generated by subscription and subscription-related revenues. We also generate cash from the sale of advertising through our Pandora business, advertising on certain non-music channels on Sirius XM and the sale of satellite radios, components and accessories. Our primary uses of cash from operating activities include revenue share and royalty payments to distributors, programming and content providers, and payments to radio manufacturers, distributors and automakers. In addition, uses of cash from operating activities include payments to vendors to service, maintain and acquire listeners and subscribers, general corporate expenditures, and compensation and related costs.

Cash Flows Used in Investing Activities

Cash flows used in investing activities in the six months ended June 30, 2021 were primarily due to spending primarily for capitalized software and hardware, and to construct a replacement satellite. Cash flows used in investing activities in the six months ended June 30, 2020 were primarily due to our $75 investment in SoundCloud, spending for capitalized software and hardware, and to construct replacement satellites. We spent $116 and $109 on capitalized software and hardware as well as $25 and $20 to construct replacement satellites during the six months ended June 30, 2021 and 2020, respectively.

Cash Flows Provided by Financing Activities

Cash flows provided by financing activities consists of the issuance and repayment of long-term debt, the purchase of common stock under our share repurchase program, the payment of cash dividends and taxes paid in lieu of shares issued for stock-based compensation. Proceeds from long term debt have been used to fund our operations, construct and launch new satellites, invest in other infrastructure improvements and purchase shares of our common stock.

Cash flows provided by financing activities in the six months ended June 30, 2021 were primarily due to the issuance of $2,000 in aggregate principal amount of 4.00% Senior Notes due 2028, ($1,976 net of costs); partially offset by the purchase and retirement of shares of our common stock under our repurchase program for $856, the payment of cash dividends of $121, payment of $43 for taxes in lieu of shares issued for share-based compensation, and the repayment of borrowings under our Credit Facility of $649. Cash flows provided by financing activities in the six months ended June 30, 2020 were primarily due to the issuance of $1,500 in aggregate principal amount of 4.125% Senior Notes due 2030, ($1,483 net of costs); partially offset by the purchase and retirement for $399 of shares of our common stock under our repurchase program, the payment of cash dividends of $117 and payment of $43 for taxes in lieu of shares issued for share-based compensation.

Future Liquidity and Capital Resource Requirements

Based upon our current business plans, we expect to fund operating expenses, capital expenditures, including the construction of replacement satellites, working capital requirements, interest payments, taxes and scheduled maturities of our debt with existing cash, cash flow from operations and borrowings under our Credit Facility. As of June 30, 2021, no amounts were outstanding under our Credit Facility. As the amount available for future borrowing is reduced by $1 related to letters of credit issued for the benefit of Pandora, $1,749 was available for future borrowing under our Credit Facility. We believe that

we have sufficient cash and cash equivalents, as well as debt capacity, to cover our estimated short-term and long-term funding needs, including amounts to construct, launch and insure replacement satellites, as well as fund future stock repurchases, future dividend payments and to pursue strategic opportunities.

Our ability to meet our debt and other obligations depends on our future operating performance and on economic, financial, competitive and other factors. We continually review our operations for opportunities to adjust the timing of expenditures to ensure that sufficient resources are maintained.

We regularly evaluate our business plans and strategy. These evaluations often result in changes to our business plans and strategy, some of which may be material and significantly change our cash requirements. These changes in our business plans or strategy may include: the acquisition of unique or compelling programming; the development and introduction of new features or services; significant new or enhanced distribution arrangements; investments in infrastructure, such as satellites, equipment or radio spectrum; and acquisitions and investments, including acquisitions and investments that are not directly related to our existing business.

We may from time to time purchase our outstanding debt through open market purchases, privately negotiated transactions or otherwise. Purchases or retirement of debt, if any, will depend on prevailing market conditions, liquidity requirements, contractual restrictions and other factors. The amounts involved may be material.

Capital Return Program

As of June 30, 2021, our board of directors had authorized for repurchase an aggregate of $16,000 of our common stock. As of June 30, 2021, our cumulative repurchases since December 2012 under our stock repurchase program totaled 3,452 shares for $15,252, and $748 remained available for additional repurchases under our existing stock repurchase program authorization.

Shares of common stock may be purchased from time to time on the open market and in privately negotiated transactions, including in accelerated stock repurchase transactions and transactions with Liberty Media and its affiliates. We intend to fund the additional repurchases through a combination of cash on hand, cash generated by operations and future borrowings. The size and timing of any purchases will be based on a number of factors, including price and business and market conditions.

On July 19, 2021, our board of directors declared a quarterly dividend in the amount of $0.014641 per share of common stock payable on August 30, 2021 to stockholders of record as of the close of business on August 6, 2021. Our board of directors expects to declare regular quarterly dividends, in an aggregate annual amount of $0.058564 per share of common stock.

On July 19, 2021, our board of directors approved an additional $2,000 of common stock repurchases, increasing our total authorization to $18,000 since the inception of the program.

Debt Covenants

The indentures governing Sirius XM's senior notes and Pandora's convertible notes and the agreement governing the Sirius XM Credit Facility include restrictive covenants. As of June 30, 2021, we were in compliance with such covenants. For a discussion of our “Debt Covenants,” refer to Note 13 to our unaudited consolidated financial statements in this Quarterly Report on Form 10-Q.

Off-Balance Sheet Arrangements

We do not have any significant off-balance sheet arrangements other than those disclosed in Note 16 to our unaudited consolidated financial statements in this Quarterly Report on Form 10-Q that are reasonably likely to have a material effect on our financial condition, results of operations, liquidity, capital expenditures or capital resources.

Contractual Cash Commitments

For a discussion of our “Contractual Cash Commitments,” refer to Note 16 to our unaudited consolidated financial statements in this Quarterly Report on Form 10-Q.

Related Party Transactions

For a discussion of "Related Party Transactions," refer to Note 12 to our unaudited consolidated financial statements in this Quarterly Report on Form 10-Q.

On February 1, 2021, Holdings entered into a tax sharing agreement with Liberty Media governing the allocation of consolidated U.S. income tax liabilities and setting forth agreements with respect to other tax matters. The tax sharing agreement was negotiated and approved by a special committee of Holdings' board of directors, all of whom are independent of Liberty Media.

Under the Internal Revenue Code, two corporations may form a consolidated tax group, and file a consolidated federal income tax return, if one corporation owns stock representing at least 80% of the voting power and value of the outstanding capital stock of the other corporation. As of June 30, 2021, Liberty Media beneficially owned, directly and indirectly, approximately 78% of the outstanding shares of our common stock. We expect that Liberty Media could beneficially own, directly and indirectly, over 80% of the outstanding shares of our common stock at some time in 2021, and Holdings and Liberty Media would then become members of the same consolidated tax group. Should that happen, the tax sharing agreement would govern certain matters related to the resulting consolidated federal income tax returns, as well as state and local returns filed on a consolidated or combined basis.

The tax sharing agreement contains provisions that Holdings believes are customary for tax sharing agreements between members of a consolidated group. The tax sharing agreement and our inclusion in Liberty Media's consolidated tax group is not expected to have any material adverse effect on us.

Critical Accounting Policies and Estimates

For a discussion of our "Critical Accounting Policies and Estimates," refer to "Management's Discussion and Analysis of Financial Condition and Results of Operations" in our Annual Report on Form 10-K for the year ended December 31, 2020. There have been no material changes to our critical accounting policies and estimates since December 31, 2020.

Glossary

Monthly active users - the number of distinct registered users on the Pandora services, including subscribers, which have consumed content within the trailing 30 days to the end of the final calendar month of the period. The number of monthly active users on the Pandora services may overstate the number of unique individuals who actively use our Pandora service, as one individual may use multiple accounts. To become a registered user on the Pandora services, a person must sign-up using an email address or phone number, or access our service using a device with a unique identifier, which we use to create an account for our service.

Average self-pay monthly churn - the Sirius XM monthly average of self-pay deactivations for the period divided by the average number of self-pay subscribers for the period.

Adjusted EBITDA - EBITDA is defined as net income before interest expense, income tax expense and depreciation and amortization. We adjust EBITDA to exclude the impact of other expense (income) as well as certain other charges discussed below. Adjusted EBITDA is a Non-GAAP financial measure that excludes or adjusts for (if applicable): (i) certain adjustments as a result of the purchase price accounting for the XM Merger and the Pandora Acquisition, (ii) share-based payment expense, (iii) impairment, restructuring and acquisition costs, (iv) legal settlements/reserves and (v) other significant operating expense (income) that do not relate to the on-going performance of our business. We believe adjusted EBITDA is a useful measure of the underlying trend of our operating performance, which provides useful information about our business apart from the costs associated with our capital structure and purchase price accounting. We believe investors find this Non-GAAP financial measure useful when analyzing our past operating performance with our current performance and comparing our operating performance to the performance of other communications, entertainment and media companies. We believe investors use adjusted EBITDA to estimate our current enterprise value and to make investment decisions. As a result of large capital investments in our satellite radio system, our results of operations reflect significant charges for depreciation expense. We believe the exclusion of share-based payment expense is useful as it is not directly related to the operational conditions of our business. We also believe the exclusion of the legal settlements and reserves, impairment, restructuring and acquisition related costs, and loss on extinguishment of debt, to the extent they occur during the period, is useful as they are significant expenses not incurred as part of our normal operations for the period.

Adjusted EBITDA has certain limitations in that it does not take into account the impact to our consolidated statements of comprehensive income of certain expenses, including share-based payment expense and certain purchase price accounting for the XM Merger and the Pandora Acquisition. We endeavor to compensate for the limitations of the Non-GAAP measure presented by also providing the comparable GAAP measure with equal or greater prominence and descriptions of the reconciling items, including quantifying such items, to derive the Non-GAAP measure. Investors that wish to compare and evaluate our operating results after giving effect for these costs, should refer to net income as disclosed in our unaudited consolidated statements of comprehensive income. Since adjusted EBITDA is a Non-GAAP financial performance measure, our calculation of adjusted EBITDA may be susceptible to varying calculations; may not be comparable to other similarly titled measures of other companies; and should not be considered in isolation, as a substitute for, or superior to measures of financial performance prepared in accordance with GAAP. The reconciliation of net income to the adjusted EBITDA is calculated as follows:

	For the Three Months Ended June 30,		For the Six Months Ended June 30,	
	2021	2020	2021	2020
Net income:	$ 433	$ 243	$ 652	$ 536
Add back items excluded from Adjusted EBITDA:				
Legal settlements and reserves	—	—	—	(16)
Impairment, restructuring and acquisition costs	(136)	24	108	24
Share-based payment expense [1]	47	52	98	107
Depreciation and amortization	131	124	263	256
Interest expense	103	102	203	201
Other income	(5)	(4)	(8)	(8)
Income tax expense	127	74	65	154
Purchase price accounting adjustments:				
Revenues	—	2	—	4
Operating expenses	—	(2)	—	(4)
Adjusted EBITDA	$ 700	$ 615	$ 1,381	$ 1,254

(1) Allocation of share-based payment expense:

	For the Three Months Ended June 30,		For the Six Months Ended June 30,	
(in millions)	2021	2020	2021	2020
Programming and content	$ 8	$ 7	$ 16	$ 15
Customer service and billing	2	1	3	3
Transmission	2	2	3	3
Sales and marketing	13	16	28	33
Engineering, design and development	6	9	17	20
General and administrative	16	17	31	33
Total share-based payment expense	$ 47	$ 52	$ 98	$ 107

Free cash flow - is derived from cash flow provided by operating activities, net of additions to property and equipment and purchases of other investments. Free cash flow is a metric that our management and board of directors use to evaluate the cash generated by our operations, net of capital expenditures and other investment activity. In a capital intensive business, with significant investments in satellites, we look at our operating cash flow, net of these investing cash outflows, to determine cash available for future subscriber acquisition and capital expenditures, to repurchase or retire debt, to acquire other companies and to evaluate our ability to return capital to stockholders. We exclude from free cash flow certain items that do not relate to the on-going performance of our business, such as cash flows related to acquisitions, strategic and short-term investments, and net loan activity with related parties and other equity investees. We believe free cash flow is an indicator of the long-term financial stability of our business. Free cash flow, which is reconciled to "Net cash provided by operating activities," is a Non-GAAP financial measure. This measure can be calculated by deducting amounts under the captions "Additions to property and equipment" and deducting or adding Restricted and other investment activity from "Net cash provided by operating activities" from the unaudited consolidated statements of cash flows. Free cash flow should be used in conjunction with other GAAP financial performance measures and may not be comparable to free cash flow measures presented by other companies. Free cash flow should be viewed as a supplemental measure rather than an alternative measure of cash flows from operating activities, as determined in accordance with GAAP. Free cash flow is limited and does not represent remaining cash flows available for discretionary expenditures due to the fact that the measure does not deduct the payments required for debt maturities. We believe free cash flow provides useful supplemental information to investors regarding our current cash flow, along with other GAAP measures (such as cash flows from operating and investing activities), to determine our financial condition, and to compare our operating performance to other communications, entertainment and media companies. Free cash flow is calculated as follows:

	For the Three Months Ended June 30,		For the Six Months Ended June 30,	
	2021	2020	2021	2020
Cash Flow information				
Net cash provided by operating activities	$ 636	$ 591	$ 928	$ 1,007
Net cash used in investing activities	(112)	(120)	(190)	(265)
Net cash provided by financing activities	541	1,258	311	919
Free Cash Flow				
Net cash provided by operating activities	636	591	928	1,007
Additions to property and equipment	(86)	(87)	(164)	(149)
Purchases of other investments	—	(1)	(3)	(7)
Free cash flow	$ 550	$ 503	$ 761	$ 851

ARPU - Sirius XM ARPU is derived from total earned subscriber revenue (excluding revenue associated with our connected vehicle services) and advertising revenue, divided by the number of months in the period, divided by the daily weighted average number of subscribers for the period. Pandora ARPU is defined as average monthly subscriber revenue per paid subscriber on our Pandora subscription services.

Subscriber acquisition cost, per installation - or SAC, per installation, is derived from subscriber acquisition costs less margins from the sale of radios and accessories (excluding connected vehicle services), divided by the number of satellite radio installations in new vehicles and shipments of aftermarket radios for the period. SAC, per installation, is calculated as follows:

	For the Three Months Ended June 30,		For the Six Months Ended June 30,	
	2021	2020	2021	2020
Subscriber acquisition costs, excluding connected vehicle services	$ 89	$ 48	$ 175	$ 147
Less: margin from sales of radios and accessories, excluding connected vehicle services	(47)	(21)	(100)	(58)
	$ 42	$ 27	$ 75	$ 89
Installations	2,724	1,320	5,791	4,403
SAC, per installation [(a)]	$ 15.20	$ 20.14	$ 12.93	$ 20.14

(a) Amounts may not recalculate due to rounding.

Ad supported listener hours - is based on the total bytes served over our Pandora advertising supported platforms for each track that is requested and served from our Pandora servers, as measured by our internal analytics systems, whether or not a listener listens to the entire track. For non-music content such as podcasts, episodes are divided into approximately track-length parts, which are treated as tracks. To the extent that third-party measurements of advertising hours are not calculated using a similar server-based approach, the third-party measurements may differ from our measurements.

RPM - is calculated by dividing advertising revenue, excluding AdsWizz and other off-platform revenue, by the number of thousands of listener hours on our Pandora advertising-based service.

LPM - is calculated by dividing advertising licensing costs by the number of thousands of listener hours on our Pandora advertising-based service.

LPU - is calculated by dividing subscriber licensing costs by the number of paid subscribers on our Pandora subscription services.

ITEM 3. QUANTITATIVE AND QUALITATIVE DISCLOSURE ABOUT MARKET RISKS

As of June 30, 2021, we did not hold or issue any free-standing derivatives. We hold investments in money market funds and certificates of deposit. These securities are consistent with the objectives contained within our investment policy. The basic objectives of our investment policy are the preservation of capital, maintaining sufficient liquidity to meet operating requirements and maximizing yield. As of June 30, 2021, we also held the following material investment:

- In connection with the recapitalization of Sirius XM Canada, on May 25, 2017, we loaned Sirius XM Canada $131 million. The loan is denominated in Canadian dollars and is subject to changes in foreign currency. It is considered a long-term investment with any unrealized gains or losses reported within Accumulated other comprehensive (loss) income. Such loan has a term of fifteen years, bears interest at a rate of 7.62% per annum and includes customary covenants and events of default, including an event of default relating to Sirius XM Canada's failure to maintain specified leverage ratios. The carrying value of the loan as of June 30, 2021 was $124.0 million and approximates its fair value as of such date. Had the Canadian to U.S. dollar exchange rate been 10% lower as of June 30, 2021, the value of this loan would have been approximately $12 million lower.

Our debt includes fixed rate instruments and the fair market value of our debt is sensitive to changes in interest rates. Sirius XM's borrowings under the Credit Facility carry a variable interest rate based on London Inter-bank Offered Rate ("LIBOR") plus an applicable rate based on its debt to operating cash flow ratio. LIBOR is the subject of national, international and other regulatory guidance and proposals for reform. On July 27, 2017, the United Kingdom's Financial Conduct Authority ("FCA"), which regulates LIBOR, announced that it intends to phase out LIBOR. On March 5, 2021, the FCA announced that all LIBOR settings will either cease to be provided by any administrator or no longer be representative: (a) immediately after December 31, 2021, in the case of the one week and two month U.S. dollar settings; and (b) immediately after June 30, 2023, in the case of the remaining U.S. dollar settings. The United States Federal Reserve has also advised banks to cease entering into new contracts that use USD LIBOR as a reference rate. The Alternative Reference Rate Committee, a committee convened by the Federal Reserve that includes major market participants, has identified the Secured Overnight Financing Rate, or SOFR, a new index calculated by short-term repurchase agreements, backed by Treasury securities, as its preferred alternative rate for LIBOR. At this time, it is not possible to predict how markets will respond to SOFR or other alternative reference rates as the transition away from the LIBOR benchmarks is anticipated in coming years. Accordingly, the outcome of these reforms is uncertain and any changes in the methods by which LIBOR is determined or regulatory activity related to LIBOR's phaseout could cause LIBOR to perform differently than in the past or cease to exist. The consequences of these developments cannot be entirely predicted, but could include an increase in the cost of our borrowings under the Credit Facility. In addition, we may, in the future, hedge against interest rate fluctuations by using hedging instruments such as swaps, caps, options, forwards, futures or other similar products. These instruments may be used to selectively manage risks, but there can be no assurance that we will be fully protected against material interest rate fluctuations.

ITEM 4. CONTROLS AND PROCEDURES

Controls and Procedures

We maintain a set of disclosure controls and procedures designed to ensure that information required to be disclosed in reports that we file or submit under the Exchange Act of 1934, is recorded, processed, summarized and reported within the time periods specified in SEC rules and forms, and that such information is accumulated and communicated to our management,

including our principal executive officer and principal financial officer, as appropriate, to allow timely decisions regarding required disclosures. The design of any disclosure controls and procedures is based in part upon certain assumptions about the likelihood of future events, and there can be no assurance that any design will succeed in achieving its stated goals under all potential future conditions. Any controls and procedures, no matter how well designed and operated, can provide only reasonable, not absolute, assurance of achieving the desired control objectives.

As of June 30, 2021, an evaluation was performed under the supervision and with the participation of our management, including our Chief Executive Officer and Chief Financial Officer, of the effectiveness of the design and operation of our disclosure controls and procedures (as that term is defined in Rule 13a-15(e) and 15d-15(e) under the Securities Exchange Act of 1934). Based on that evaluation, our management, including our Chief Executive Officer and our Chief Financial Officer, concluded that our disclosure controls and procedures were effective as of June 30, 2021.

Changes in Internal Control Over Financial Reporting

There has been no change in our internal control over financial reporting (as that term is defined in Rule 13a-15(f) and 15d-15(f) under the Securities Exchange Act of 1934) during the quarter ended June 30, 2021 that has materially affected, or is reasonably likely to materially affect, our internal control over financial reporting.

PART II — OTHER INFORMATION

ITEM 1. LEGAL PROCEEDINGS

For a discussion of our “Legal Proceedings,” refer to Note 16 to our unaudited consolidated financial statements in this Quarterly Report on Form 10-Q.

ITEM 1A. RISK FACTORS

There have been no material changes to the risk factors previously disclosed in response to Part I, "Item 1A. Risk Factors," of our Annual Report on Form 10-K for the year ended December 31, 2020.

ITEM 2. UNREGISTERED SALES OF EQUITY SECURITIES AND USE OF PROCEEDS

On July 19, 2021, our board of directors approved an additional $2.0 billion for repurchase of our common stock. The new approval increases the amount of common stock that we have been authorized to repurchase to an aggregate of $18.0 billion. Our board of directors did not establish an end date for this stock repurchase program. Shares of common stock may be purchased from time to time on the open market, pursuant to pre-set trading plans meeting the requirements of Rule 10b5-1 under the Exchange Act, in privately negotiated transactions, including transactions with Liberty Media and its affiliates, or otherwise. As of June 30, 2021, our cumulative repurchases since December 2012 under our stock repurchase program totaled 3.5 billion shares for $15.3 billion, and $0.7 billion remained available under our existing $16.0 billion stock repurchase program. The size and timing of these purchases will be based on a number of factors, including price and business and market conditions.

The following table provides information about our purchases of equity securities registered pursuant to Section 12 of the Exchange Act, as amended, during the quarter ended June 30, 2021:

Period	Total Number of Shares Purchased	Average Price Paid Per Share (a)	Total Number of Shares Purchased as Part of Publicly Announced Plans or Programs	Approximate Dollar Value of Shares that May Yet Be Purchased Under the Plans or Programs (a)
April 1, 2021 - April 30, 2021	18,942,982	$ 6.26	18,942,982	$ 957,281,679
May 1, 2021 - May 31, 2021	21,579,075	$ 5.99	21,579,075	$ 828,123,133
June 1, 2021 - June 30, 2021	12,354,509	$ 6.48	12,354,509	$ 748,107,962
Total	52,876,566	$ 6.20	52,876,566	

(a) These amounts include fees and commissions associated with the shares repurchased.

ITEM 3. DEFAULTS UPON SENIOR SECURITIES

Not applicable.

ITEM 4. MINE SAFETY DISCLOSURES

Not applicable.

ITEM 5. OTHER INFORMATION

None.

ITEM 6. EXHIBITS

See Exhibit Index attached hereto, which is incorporated herein by reference.

EXHIBIT INDEX

Exhibit	Description
4.1	Indenture, dated as of June 21, 2021, relating to the 4.000% Senior Notes due 2028, among Sirius XM Radio Inc., the guarantors named therein and U.S. Bank National Association, as trustee, including the form of 4.000% Senior Notes due 2028 (incorporated by reference to Exhibit 4.1 to Sirius XM Holdings Inc.'s Current Report on Form 8-K dated June 21, 2021 (File No. 001-34295)).
10.1*	Employment Agreement, dated as of May 5, 2021, between Sirius XM Radio Inc. and Dara F. Altman (incorporated by reference to Exhibit 10.1 to Sirius XM Holdings Inc.'s Current Report on Form 8-K filed on May 7, 2021 (File No. 001-34295)).
31.1	Certificate of Jennifer C. Witz, Chief Executive Officer and Director, pursuant to Section 302 of the Sarbanes-Oxley Act of 2002 (filed herewith).
31.2	Certificate of Sean S. Sullivan, Executive Vice President and Chief Financial Officer, pursuant to Section 302 of the Sarbanes-Oxley Act of 2002 (filed herewith).
32.1	Certificate of Jennifer C. Witz, Chief Executive Officer and Director, pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002 (filed herewith).
32.2	Certificate of Sean S. Sullivan, Executive Vice President and Chief Financial Officer, pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002 (filed herewith).
101.1	The following financial information from our Quarterly Report on Form 10-Q for the quarter ended June 30, 2021 formatted in Inline eXtensible Business Reporting Language (Inline XBRL): (i) Consolidated Statements of Comprehensive Income (Unaudited) for the three and six months ended June 30, 2021 and 2020; (ii) Consolidated Balance Sheets as of June 30, 2021 (Unaudited) and December 31, 2020; (iii) Consolidated Statements of Stockholders' Equity (Deficit) for the three and six months ended June 30, 2021 and 2020 (Unaudited); (iv) Consolidated Statements of Cash Flows (Unaudited) for the six months ended June 30, 2021 and 2020; and (v) Notes to Consolidated Financial Statements (Unaudited).
104	The cover page from the Company's Quarterly Report on Form 10-Q for the quarter ended June 30, 2021, formatted in Inline XBRL.

* This document has been identified as a management contract or compensatory plan or arrangement.

The agreements and other documents filed as exhibits to this report are not intended to provide factual information or other disclosure other than with respect to the terms of the agreements or other documents themselves, and you should not rely on them other than for that purpose. In particular, any representations and warranties made by us in these agreements or other documents were made solely within the specific context of the relevant agreement or document as of the date they were made and may not describe the actual state of affairs for any other purpose or at any other time.

SIGNATURES

Pursuant to the requirements of the Securities Exchange Act of 1934, the registrant has duly caused this report to be signed on its behalf by the undersigned, thereunto duly authorized on this 27th day of July 2021.

SIRIUS XM HOLDINGS INC.

By: /s/ Sean S. Sullivan

Sean S. Sullivan
Executive Vice President and Chief Financial Officer
(Principal Financial Officer and Authorized Officer)

COEX-
8.32

Exhibit 31.1

CERTIFICATION OF CHIEF EXECUTIVE OFFICER

I, Jennifer C. Witz, certify that:

1. I have reviewed this Quarterly Report on Form 10-Q for the quarterly period ended June 30, 2021 of Sirius XM Holdings Inc.;
2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;
3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this report;
4. The registrant's other certifying officer and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the registrant and have:
   (a) Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;
   (b) Designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;
   (c) Evaluated the effectiveness of the registrant's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and
   (d) Disclosed in this report any change in the registrant's internal control over financial reporting that occurred during the registrant's most recent fiscal quarter (the registrant's fourth fiscal quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, the registrant's internal control over financial reporting; and
5. The registrant's other certifying officer and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant's auditors and the audit committee of the registrant's board of directors (or persons performing the equivalent functions):
   (a) all significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant's ability to record, process, summarize and report financial information; and
   (b) any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal control over financial reporting.

By: /s/ JENNIFER C. WITZ

Jennifer C. Witz
Chief Executive Officer and Director
(Principal Executive Officer)

July 27, 2021

COEX-
8.32

Exhibit 31.2

CERTIFICATION OF CHIEF FINANCIAL OFFICER

I, Sean S. Sullivan, certify that:

1. I have reviewed this Quarterly Report on Form 10-Q for the quarterly period ended June 30, 2021 of Sirius XM Holdings Inc.;
2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;
3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this report;
4. The registrant's other certifying officer and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the registrant and have:
   (a) Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;
   (b) Designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;
   (c) Evaluated the effectiveness of the registrant's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and
   (d) Disclosed in this report any change in the registrant's internal control over financial reporting that occurred during the registrant's most recent fiscal quarter (the registrant's fourth fiscal quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, the registrant's internal control over financial reporting; and
5. The registrant's other certifying officer and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant's auditors and the audit committee of the registrant's board of directors (or persons performing the equivalent functions):
   (a) all significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant's ability to record, process, summarize and report financial information; and
   (b) any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal control over financial reporting.

By: /s/ SEAN S. SULLIVAN

Sean S. Sullivan
Executive Vice President and Chief
Financial Officer
(Principal Financial Officer)

July 27, 2021

COEX-
8.32

Exhibit 32.1

CERTIFICATION PURSUANT TO
18 U.S.C. SECTION 1350,
AS ADOPTED PURSUANT TO
SECTION 906 OF THE SARBANES-OXLEY
ACT OF 2002

In connection with the Quarterly Report of Sirius XM Holdings Inc. (the "Company") on Form 10-Q for the quarterly period ended June 30, 2021 as filed with the Securities and Exchange Commission on the date hereof (the "Report"), I, Jennifer C. Witz, Chief Executive Officer of the Company, certify, pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002, that:

(1) The Report fully complies with the requirements of Section 13(a) or 15(d) of the Securities Exchange Act of 1934; and

(2) The information contained in the Report fairly presents, in all material respects, the financial condition and results of operations of the Company.

By: /s/ JENNIFER C. WITZ

Jennifer C. Witz
Chief Executive Officer and Director
(Principal Executive Officer)

July 27, 2021

A signed original of this written statement required by Section 906, or other document authenticating, acknowledging, or otherwise adopting the signature that appears in typed form within the electronic version of this written statement required by Section 906, has been provided to the Company and will be retained by the Company and furnished to the Securities and Exchange Commission or its staff upon request.

COEX-
8.32

Exhibit 32.2

CERTIFICATION PURSUANT TO
18 U.S.C. SECTION 1350,
AS ADOPTED PURSUANT TO
SECTION 906 OF THE SARBANES-OXLEY
ACT OF 2002

In connection with the Quarterly Report of Sirius XM Holdings Inc. (the "Company") on Form 10-Q for the quarterly period ended June 30, 2021 as filed with the Securities and Exchange Commission on the date hereof (the "Report"), I, Sean S. Sullivan, Executive Vice President and Chief Financial Officer of the Company, certify, pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002, that:

(1) The Report fully complies with the requirements of Section 13(a) or 15(d) of the Securities Exchange Act of 1934; and

(2) The information contained in the Report fairly presents, in all material respects, the financial condition and results of operations of the Company.

By: /s/ SEAN S. SULLIVAN

Sean S. Sullivan
Executive Vice President and Chief Financial Officer
(Principal Financial Officer)

July 27, 2021

A signed original of this written statement required by Section 906, or other document authenticating, acknowledging, or otherwise adopting the signature that appears in typed form within the electronic version of this written statement required by Section 906, has been provided to the Company and will be retained by the Company and furnished to the Securities and Exchange Commission or its staff upon request.

COEX-8.33
RESTRICTED
FILED UNDER SEAL

COEX-8.34

Who Will Own Spotify in Five Years?

rollingstone.com/pro/features/who-will-own-spotify-in-five-years-876693/

Tim Ingham August 28, 2019

Spotify is proud of its independent status. Yes, the $26 billion-valued streaming service is partially owned by a raft of corporate giants, from Tencent (9.2 percent) to Baillie Gifford (9.7), TCV (5.3) and Tiger Global (7.1). And, yes, Spotify raised $1 billion in convertible debt three years ago, via the likes of TPG, Dragoneer, and Goldman Sachs, having previously attracted investment from Coca-Cola and Hong Kong mogul Li Ka-shing (and his $28 billion personal fortune).

And yet, relative to the rest of 2019's blockbuster music-streaming pack, Spotify remains something of a plucky underdog. The company, which floated on the New York Stock Exchange last year, is the only "pure-play" major music-streaming company in existence. With 108 million Premium subscribers and 232 million total active users worldwide, Spotify also happens to be the biggest paid-for streaming service on the planet.

Unlike Apple Music, Tencent Music, YouTube Music, and Amazon Music, its biggest global rivals, Spotify's music service doesn't drive revenues in other, wildly lucrative areas (for Apple, device sales; for Amazon, e-store sales and Prime memberships; etc.). Say what you like about Spotify — and plenty in the music business do — but at the end of the day, its

business lives or dies on the financial appeal of music itself. (Oh, and podcasts; as covered in this column last year, Spotify is also banking its future on the talk-radio-esque format. It has spent more than $400 million this year already on acquiring podcast content and distribution companies.)

Can Spotify ultimately succeed as a commercial entity on this basis? It's debatable. Its status as a perpetual loss-making business *is* becoming less severe; in the first half of 2019, according to its filings, Spotify posted a €228 million pre-tax loss, less than half the €572 million equivalent loss from the same period in 2018. And yet there are those in the music industry who continue to doubt that SPOT will ever become profitable, or at least grow to the degree that its Wall Street backers demand.

There are a couple of early warning signs in this regard. For example, in the first half of this year, Spotify added just 12 million subscribers globally, despite launching in India in February, where its potential addressable audience stands at 1.3 billion. It also launched in the Middle East and North Africa (MENA) last November, where around 380 million people are currently resisting its charms.

For this reason, many industry insiders suggest, Spotify will eventually, inevitably, end up under the ownership of a larger corporation that — just like the parents of Apple Music, Amazon Music, etc. — will have myriad corporate interests in a multitude of verticals. Technically speaking, this is possible: Like Spotify, Pandora was a loss-making publicly traded company when, in February, it was swallowed by satellite radio behemoth SiriusXM in a $3.5 billion deal.

Here are five other huge businesses that, with some strategic reasoning, could make a play to own Spotify over the next five years:

1) Netflix

Did you know that Netflix already runs a record label? OK, that's a bit of a stretch, but it's not false. This week, I spotted that the company's Indian outpost, Netflix India Originals LLC, controls the rights to a hip-hop record, *Kaam 25*, recorded by Indian rapper Divine in 2018 — a track that was attached to a digital TV series, *Sacred Games.* This got my mind whirring, because Mumbai-based Divine, formerly an independent star, has just struck a major deal with Universal Music Group (and Mass Appeal), making him UMG's big hope of distributing a breakout global Indian artist in 2019.

Question: What might happen if Netflix and Spotify worked together to break artists like this — with the movie/TV platform creating and promoting visual vehicles that put the artist front-and-center, then driving listening consumption on its audio streaming counterpart? Netflix's current annual budget for making, licensing, and buying original content is $15 billion. Should

it apply even a portion of this to the music industry, it would cause huge disruption; recent stats showed that the three major record companies, combined, spent $4.1 billion on A&R (the signing and development of artists) in 2017.

Netflix could help Spotify become a real player in the world of original content ownership, drastically reducing SPOT's biggest financial drain (royalty payments to music rights-holders, which suck around 70 percent of its revenues away every year). In protest at this scenario, the major record companies might start pulling their content from Spotify, or punishing the platform by holding back major releases — an obstacle that, depending on Netflix's zeal, may prove insurmountable.

As for Netflix's selfish motivations? It lost 126,000 subscribers in Q2, thanks largely to its decision to keep on inching up its subscription prices. Its market cap hasn't yet recovered from that news, and NFLX is also under threat from new players in its core space, like Apple TV+ and Disney+. Perhaps its stockholders would now like to see Netflix diversify into other entertainment media, creating a bundled music-plus-TV subscription price that would give it a robust advantage versus its competitors?

2) Facebook

There was a time when it looked as though Facebook was destined to be an enemy of the music business. Back in 2016, music publishers were continually hitting the social media service with legal takedown notices, in reaction to its users' (and some artists') posting content that contained copyrighted recorded music.

Yet over the past two years, this situation has changed dramatically. Largely thanks to Mark Zuckerberg writing three big checks for the major music companies in 2017 and 2018 (believed to amount a hefty nine-figure sum), Facebook is now fully licensed and fully legit. (This is why you can easily post audio and lyrics to your Instagram Stories today without the fear of a litigious music publisher bringing down the guillotine.)

And yet, despite paying these weighty figures for legitimacy, Facebook has resisted entering the on-demand music-streaming game and taking on the likes of Apple Music. That's partly because of its aversion to the subscription model: Some 98.5 percent of Facebook's $55.8 billion revenue in 2018 came from advertising, according to its SEC filings, with just 1.5 percent from "payments and other fees."

That said, the heat is now on Facebook's advertising model in the wake of the Cambridge Analytica user-privacy (and related political lobbying) scandal, a historic transgression that led directly to the firm losing $36 billion in market cap value. Perhaps now is the time for Facebook to show its investors that online advertising isn't the only commercial play in its future.

For Spotify, Facebook's audience is the stuff of fantasy: More than 2 billion people use Facebook each month, while Instagram and Whatsapp have more than 1 billion apiece. What's more, Facebook has in excess of 240 million users in India — a priority territory for Spotify — making it FB's biggest market worldwide.

3) AT&T

I'm not the first to note that Spotify has been quietly forging alliances of late with massive corporations that could one day make an appropriate buyer of its own company — but when you join the dots, things get intriguing. Take, for example, AT&T, the USA's largest mobile network, with 159.7 million tariff subscribers as of the end of June this year.

Thanks to a partnership inked in early August, customers on AT&T's priciest tiers (AT&T Unlimited & More Premium) now get a free subscription to Spotify Premium wrapped into their monthly payment. Behind the scenes, of course, it's not "free" at all — it's subsidized by AT&T, which will pay Spotify a certain rate per bundled subscriber.

We've already seen one large telco buy into a music streaming service (AT&T rival Sprint acquired 33 percent of Jay-Z's TIDAL for $200 million in January 2017). Could AT&T, perhaps tempted by the ability to drive down the price of a subsidized long-term Spotify partnership, be tempted by a deeper alliance?

4) Samsung

Another company to keep an eye on: Samsung. As of September last year, the South Korea-based electronics giant had 893 million active smartphones in the world, comfortably more than its key rival, Apple (which had around 864 million, according to Newzoo research).

In March, Samsung inked a global deal with Spotify, which will see the music service come pre-installed on millions of new phones, while eligible U.S. Samsung device owners qualify for six months of free Spotify Premium. Could Samsung and Spotify now take this one step further, wrapping a lifetime subscription to Spotify into the upfront price of a Samsung product — or ensuring that Samsung customers gain access to new tools and features on Spotify that other phone owners don't get?

Samsung ownership of Spotify, whether in part or full, would bring the Korean company more in line with Apple, which uses Apple Music, part of its Services division, both to drive revenue and fuel interest in its hardware. Samsung previously ran its own music service, Milk Music, but canned it in 2016. Could Spotify become its natural successor?

5) Tencent

Last, on the theme of companies Spotify is already in bed with, there's Chinese media goliath Tencent Holdings. Tencent is the majority owner of Tencent Music Entertainment (TME), which runs China's biggest digital-music services, like QQ Music, Kugo, and Kugou; it also owns minority stakes in Fortnite maker Epic Games and a key Spotify rival in India, Gaana.

In 2017, Tencent and Spotify performed a "stock swap" that saw Tencent acquire 9.2 percent of Spotify and Spotify take a 9.1 percent stake in Tencent Music Entertainment. TME is the dominant digital-music service in Greater China, a mantle claimed by Spotify in Europe, North America, and Latin America. A meaningful merger between these two entities would create a music service with true global dominance — and weighty leverage when trying to barter down those record-company royalty payments.

Adding some spice to this scenario: Universal Music Group still owns around 3.5 percent of Spotify, with Sony Music owning around 2.8 percent. On the flip side, Tencent Holdings is on the verge of buying 10-20 percent of Universal. If Tencent now also ups its ownership stake in Spotify, especially to a majority position, this one could get complicated.

Tim Ingham is the founder and publisher of Music Business Worldwide, *which has serviced the global industry with news, analysis and jobs since 2015. He writes a weekly column for "Rolling Stone."*

COEX-8.35

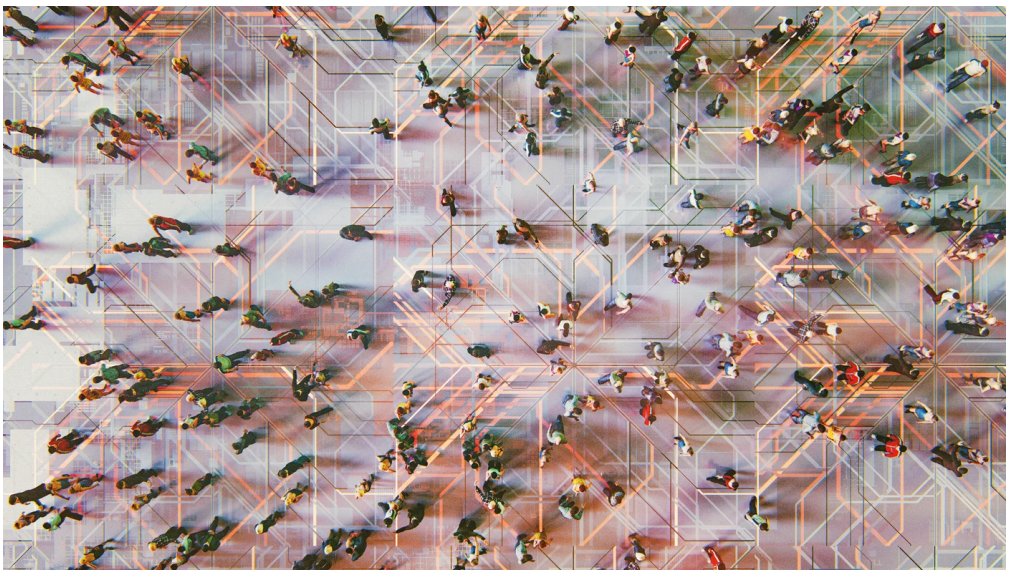
2021

GLOBAL 2000

How The World's Biggest Public Companies Endured The Pandemic

BY ANDREA MURPHY, ELIZA HAVERSTOCK, ANTOINE GARA, CHRIS HELMAN AND NATHAN VARDI

MAY 13, 2021



GETTY IMAGES

World business leaders faced impossible decisions a year ago. Initiate layoffs, or wait for government money? Pay rent, or meet payroll? Which factories do we mothball first? How do we liquidate all this inventory? Chapter 11 now or later?

Yet even as airlines and retailers collapsed, oil prices plunged below zero and death counts soared -- there were some pandemic bright spots. Pharmas like Pfizer and AstraZeneca have been busy, while Amazon can't find enough workers. And as we have learned to live ever more of our lives as digital simulacra, it's still rather shocking that semiconductor giants like TSMC and Nvidia can't make their chips fast enough.

Since 2003, Forbes' Global 2000 list has measured the world's largest public companies in terms of four equally weighted metrics: assets, market value, sales and profits. Last year's edition offered a glimpse into the early economic implications of the Covid-19 pandemic. Now, we see the results over 12 months of market turmoil and unfathomable human loss.

The results are not all bad. With central banks allowing negative interest rates, investors have determined that there is no alternative to equity investing. Naturally, the total global stock market jumped roughly 48% in the past year. So although sales and profits may be down for the Forbes Global 2000 companies, total assets and market value are up. (See below for our detailed methodology, based on latest-12-months' financial data available to us on April 16, 2021.) Sign of the times: The minimum market value to be considered for the 2021 list was $8.26 billion, up from $5.27 billion in 2020.

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COEX-
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Forbes

THE LIST: 2021 GLOBAL 2000

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SEARCH BY COUNTRY/TERRITORY

OR

SEARCH BY NAME

Rank	Name	Country	Sales	Profit	Assets	Market Value
1	ICBC	China	$190.5 B	$45.8 B	$4,914.7 B	$249.5 B
2	JPMorgan Chase	United States	$136.2 B	$40.4 B	$3,689.3 B	$464.8 B
3	Berkshire Hathaway	United States	$245.5 B	$42.5 B	$873.7 B	$624.4 B
4	China Construction Bank	China	$173.5 B	$39.3 B	$4,301.7 B	$210.4 B
5	Saudi Arabian Oil Company (Saudi Aramco)	Saudi Arabia	$229.7 B	$49.3 B	$510.3 B	$1,897.2 B
6	Apple	United States	$294 B	$63.9 B	$354.1 B	$2,252.3 B
6	Bank of America	United States	$98.8 B	$17.9 B	$2,832.2 B	$336.3 B
6	Ping An Insurance Group	China	$169.1 B	$20.8 B	$1,453.8 B	$211.2 B
9	Agricultural Bank of China	China	$153.9 B	$31.3 B	$4,159.9 B	$140.1 B
10	Amazon	United States	$386.1 B	$21.3 B	$321.2 B	$1,711.8 B
11	Samsung Electronics	South Korea	$200.7 B	$22.1 B	$348.2 B	$510.5 B
12	Toyota Motor	Japan	$249.4 B	$14.3 B	$561.9 B	$219.2 B
13	Alphabet	United States	$182.4 B	$40.3 B	$319.6 B	$1,538.9 B
14	Bank of China	China	$134 B	$27.9 B	$3,731.4 B	$116.7 B
15	Microsoft	United States	$153.3 B	$51.3 B	$304.1 B	$1,966.6 B

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16	Citigroup	United States	$84.4 B	$17.1 B	$2,314.3 B	$151.2 B
17	Volkswagen Group	Germany	$254.1 B	$9.5 B	$646.4 B	$147.2 B
18	Walmart	United States	$559.2 B	$13.5 B	$252.5 B	$396.1 B
19	Wells Fargo	United States	$85.9 B	$7.4 B	$1,959.5 B	$181.5 B
20	Verizon Communications	United States	$128.3 B	$17.8 B	$316.5 B	$241.3 B
21	UnitedHealth Group	United States	$262.9 B	$16.9 B	$205.2 B	$369.6 B
22	China Merchants Bank	China	$60.4 B	$14.1 B	$1,278.5 B	$192.8 B
23	Alibaba Group	China	$93.8 B	$23.3 B	$250.1 B	$657.5 B
24	Allianz	Germany	$129.9 B	$7.8 B	$1,357.5 B	$108 B
25	Comcast	United States	$103.6 B	$10.5 B	$273.9 B	$252.4 B
26	Goldman Sachs Group	United States	$61.8 B	$15.1 B	$1,302 B	$116.5 B
27	Softbank	Japan	$70.3 B	$14.9 B	$366.7 B	$163.1 B
28	Postal Savings Bank Of China (PSBC)	China	$67.2 B	$9.3 B	$1,736.2 B	$112.4 B
29	Tencent Holdings	China	$70 B	$23.3 B	$203.9 B	$773.8 B
30	BNP Paribas	France	$102.7 B	$7.6 B	$3,044.8 B	$79.1 B

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31	Morgan Stanley	United States	$56.7 B	$13.4 B	$1,158.8 B	$123.9 B
32	China Mobile	Hong Kong	$111.3 B	$15.6 B	$264.2 B	$134.9 B
33	Facebook	United States	$86 B	$29.1 B	$159.3 B	$870.5 B
34	Johnson & Johnson	United States	$82.6 B	$14.7 B	$174.9 B	$427.1 B
35	Sony	Japan	$79.9 B	$10.1 B	$250.7 B	$137.3 B
36	Intel	United States	$77.9 B	$20.9 B	$153.1 B	$263.7 B
37	CVS Health	United States	$268.7 B	$7.2 B	$238.5 B	$99.6 B
38	RBC	Canada	$42.9 B	$8.8 B	$1,308.2 B	$135 B

40	HSBC Holdings	United Kingdom	$60.6 B	$4 B	$2,984.2 B	$120.3 B
41	Daimler	Germany	$175.9 B	$4.1 B	$349.6 B	$99.2 B
42	TD Bank Group	Canada	$38.8 B	$9.1 B	$1,358.6 B	$120.6 B
43	Nippon Telegraph & Tel	Japan	$110.3 B	$8.3 B	$231.1 B	$96.7 B
44	Deutsche Telekom	Germany	$115.1 B	$4.7 B	$345.4 B	$91.6 B
45	General Electric	United States	$79.9 B	$5.6 B	$255.1 B	$117.6 B

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46	Procter & Gamble	United States	$74 B	$13.8 B	$120.1 B	$338 B
47	General Motors	United States	$122.5 B	$6.4 B	$235.2 B	$84.6 B
48	Sinopec	China	$271.1 B	$4.8 B	$265.1 B	$82.6 B
49	China Life Insurance	China	$113.8 B	$7.3 B	$651.9 B	$57.3 B
50	Industrial Bank	China	$53.8 B	$9.7 B	$1,207.2 B	$66.5 B
51	Sberbank	Russia	$47.3 B	$10.4 B	$486.9 B	$85.7 B
52	Mitsubishi UFJ Financial	Japan	$56 B	$5.2 B	$3,406.5 B	$69.7 B
53	Cigna	United States	$160.6 B	$8.5 B	$151.5 B	$87.7 B
54	AXA Group	France	$129.5 B	$3.4 B	$951.5 B	$67.8 B
55	AIA Group	Hong Kong	$42.6 B	$5.8 B	$321.6 B	$153.7 B
55	Reliance Industries	India	$61.2 B	$5.7 B	$166.3 B	$164.9 B
57	Bank of Communications	China	$67.6 B	$11.1 B	$1,635.8 B	$47.9 B
58	Pfizer	United States	$47.6 B	$9.6 B	$154.2 B	$215.2 B
59	IBM	United States	$73.6 B	$5.6 B	$156 B	$119.4 B
60	Roche Holding	Switzerland	$62.1 B	$15.2 B	$97.4 B	$287.1 B

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61	BMW Group	Germany	$112.8 B	$4.3 B	$282 B	$69.8 B
62	MetLife	United States	$67.8 B	$5.4 B	$795.1 B	$55.8 B
63	PetroChina	China	$280.7 B	$2.9 B	$380.5 B	$66.7 B
64	LVMH Moët Hennessy Louis Vuitton	France	$50.9 B	$5.4 B	$133 B	$380.3 B
65	Novartis	Switzerland	$48.6 B	$8.1 B	$132.2 B	$198.6 B
66	Taiwan Semiconductor	Taiwan	$48.1 B	$18.7 B	$98.3 B	$558.1 B
67	Home Depot	United States	$132.1 B	$12.9 B	$70.6 B	$352.8 B
68	Shanghai Pudong Development	China	$52.3 B	$8.5 B	$1,215.7 B	$47.4 B
68	Siemens	Germany	$58 B	$4.9 B	$148.6 B	$139.8 B
70	PepsiCo	United States	$71.3 B	$7.5 B	$91.2 B	$199.2 B
71	Oracle	United States	$39.7 B	$12.8 B	$118.1 B	$227.7 B
72	Sanofi	France	$41.1 B	$14 B	$140.1 B	$127.4 B
73	Enel	Italy	$71.4 B	$3 B	$200 B	$105.4 B
74	AbbVie	United States	$45.8 B	$4.6 B	$150.6 B	$190.4 B
75	Cisco Systems	United States	$48 B	$10.1 B	$95.6 B	$222.9 B

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75	Zurich Insurance Group	Switzerland	$58.4 B	$3.8 B	$413.8 B	$61.7 B
77	Bank of Nova Scotia	Canada	$30.7 B	$5.1 B	$911.2 B	$75.3 B
78	Commonwealth Bank	Australia	$22.4 B	$5.7 B	$816.2 B	$120.7 B
79	BHP Group	Australia	$46.1 B	$6.9 B	$103.2 B	$186.1 B
79	UBS	Switzerland	$32.2 B	$6.5 B	$1,125.8 B	$57.3 B
81	British American Tobacco	United States	$33.1 B	$8.2 B	$188.2 B	$91.6 B
82	Honda Motor	Japan	$121.8 B	$3.9 B	$201.3 B	$52.8 B
82	Intesa Sanpaolo	Italy	$45.8 B	$3.7 B	$1,226.7 B	$53.3 B
84	Merck & Co.	United States	$47.8 B	$7.1 B	$91.6 B	$196 B
85	Sumitomo Mitsui Financial	Japan	$38.6 B	$4.9 B	$2,256.8 B	$48.9 B
86	Rio Tinto	Luxembourg	$44.5 B	$9.7 B	$97.4 B	$135.3 B
87	Japan Post Holdings	Japan	$106.6 B	$4.2 B	$2,879 B	$34.8 B

89	Anthem	United States	$121.9 B	$4.6 B	$88.3 B	$92 B
90	Charter Communications	United States	$48.1 B	$3.2 B	$146.1 B	$124.8 B

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90	Unilever	United Kingdom	$57.8 B	$6.3 B	$82.8 B	$151.1 B
92	Dell Technologies	United States	$94.3 B	$3.3 B	$123.4 B	$77.4 B
93	Manulife	Canada	$57.2 B	$4.4 B	$655 B	$41.9 B
94	Hon Hai Precision	Taiwan	$182 B	$3.5 B	$130.8 B	$60.4 B
95	American Express	United States	$38.2 B	$3.1 B	$191.4 B	$120.5 B
96	China Vanke	China	$62.6 B	$6.1 B	$285.8 B	$42.2 B
97	GlaxoSmithKline	United Kingdom	$43.7 B	$7.4 B	$109.9 B	$92.9 B
98	Truist Financial	United States	$24.3 B	$4.9 B	$517.5 B	$77.8 B
99	Rosneft	Russia	$70.8 B	$2 B	$207.5 B	$77.7 B
100	China State Construction Engineering	China	$215.3 B	$6.1 B	$323 B	$33 B

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INSIDE THE GLOBAL 2000

Inside The Global 2000: The Value Of The World's Largest Public Companies Soar, As Sales And Profits Falter

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The World’s Largest Technology Companies In 2021: Apple’s Lead Widens As Coinbase, DoorDash Storm Into Ranks

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Warren Buffett And Tim Cook Snub Blockchain As Corporate Giants Embrace

Michael del Castillo, Forbes Staff

The World’s Largest Public Real Estate Companies 2021

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Forbes Global 2000: The World’s Largest Hotel, Restaurant And Leisure Companies

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The World’s Largest Banks 2021: Banks Grew Larger During The Pandemic, With U.S. And Chinese Banks Dominant

Jason Bisnoff, Forbes Staff

World’s Largest Healthcare Companies 2021: Big Pharma And Insurers Profit Through The Pandemic

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Amazon And Walmart Slug It Out For Retail Supremacy As Pandemic Boosts Sales For Both Giants

John Dobosz, Forbes Staff

Pent-Up Luxury Demand Keeps LVMH On Top Of The World's Largest Apparel Companies

Abigail Freeman, Forbes Staff

Bold Prince Holds Tight Grip On Cash Machine Saudi Aramco, The World's Most Profitable Company

Christopher Helman, Forbes Staff

How Green Energy Will Transform The Ranks Of The World's Biggest Electric Generators

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Forbes Global 2000: The World's Largest Transportation Companies

Kevin Dowd, Forbes Staff

Forbes Global 2000: The World's Largest Insurance Companies In 2021

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Nestlé Wins World Food Fight, PepsiCo Biggest In Drinks With Help From Snacks

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The World's Largest Media Companies 2020: Comcast And Charter Lead As Streaming Disruption Looms

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Forbes Global 2000: The World's Largest Airline & Aerospace Companies In 2021

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JPMorgan Is America's Largest Company In 2021, But Amazon Is Rising In The Ranks

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ICBC Repeats Atop New Forbes Global 2000 List; Lufax, Kuaishou Add To Record China Presence

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Kremlin-Backed Sberbank Outstrips Oil Giants To Become Russia's Top Public Company

Nina Wolpow, Forbes Staff

Billionaire Mukesh Ambani's Reliance Industries Holds India's Top Spot On Forbes Global 2000

Aayushi Pratap, Forbes Staff

Itaú's New CEO Will Have To Compete With Upstart Fintechs To Remain Latin America's Most Powerful Bank

Maria Abreu, Forbes Staff

Forbes Global 2000: Volkswagen Dethrones Royal Dutch Shell As Europe's Largest Public Company

Margherita Beale, Forbes Staff

We compile our Global 2000 list using data from FactSet Research systems to screen for the biggest public companies in four metrics: sales, profits, assets and market value. Our market value calculation is as of April 16, 2021, closing prices and includes all common shares outstanding.

All figures are consolidated and in U.S. dollars. We use the latest-12-months' financial data available to us on April 16, 2021. We rely heavily on the databases for all data, as well as the latest financial period

for the companies and used in our rankings: the timeliness of our data collection/screening and company reporting policies, country-specific reporting policies and the lag time between when a company releases its financial data and when the databases capture it for screening/ranking. We quality-check the downloaded financial data to the best of our ability using other data sources and available company financial statements.

We first create four separate lists of the 2,000 biggest companies in each of the metrics: sales, profits, assets, and market value. Each of the 2,000 lists has a minimum cutoff value in order for a company to qualify: Sales of $4.6 billion, profits of $278.5 million, assets of $12.72 billion and market value of $8.3 billion. A company needs to qualify for at least one of the lists to be eligible for the final Global 2000 ranking. This year 3,650 companies were needed to fill out the four lists of 2,000, each company qualifying for at least one of the lists. Each company receives a separate score for each metric based on where it ranks on the metric's 2,000 list. We add up all the scores for all four metrics (equally weighted) and compile a composite score for each company based on their rankings for sales, profits, assets and market value. We sort the companies in descending order by the highest composite score and then apply our Forbes Global 2000 rank. The highest composite score gets the highest rank.

Publicly traded subsidiaries for which the parent company consolidates figures are excluded from our list. For most countries, the accounting rules for the consolidation of a subsidiary is when the parent's ownership (control) of the subsidiaries stock is more than 50%. Some countries' accounting rules allow for the consolidation of a subsidiary at less than 50% ownership.

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UNITED STATES
SECURITIES AND EXCHANGE COMMISSION
Washington, D.C. 20549

FORM 10-K

(Mark One)

☒ **ANNUAL REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934**

For the fiscal year ended September 26, 2020

or

☐ **TRANSITION REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934**

For the transition period from _____ to _____.

Commission File Number: **001-36743**

Apple Inc.

(Exact name of Registrant as specified in its charter)

California	**94-2404110**
(State or other jurisdiction of incorporation or organization)	(I.R.S. Employer Identification No.)
One Apple Park Way **Cupertino, California**	**95014**
(Address of principal executive offices)	(Zip Code)

(408) 996-1010
(Registrant's telephone number, including area code)

Securities registered pursuant to Section 12(b) of the Act:

Title of each class	Trading symbol(s)	Name of each exchange on which registered
Common Stock, $0.00001 par value per share	**AAPL**	**The Nasdaq Stock Market LLC**
1.000% Notes due 2022	**—**	**The Nasdaq Stock Market LLC**
1.375% Notes due 2024	**—**	**The Nasdaq Stock Market LLC**
0.000% Notes due 2025	**—**	**The Nasdaq Stock Market LLC**
0.875% Notes due 2025	**—**	**The Nasdaq Stock Market LLC**
1.625% Notes due 2026	**—**	**The Nasdaq Stock Market LLC**
2.000% Notes due 2027	**—**	**The Nasdaq Stock Market LLC**
1.375% Notes due 2029	**—**	**The Nasdaq Stock Market LLC**
3.050% Notes due 2029	**—**	**The Nasdaq Stock Market LLC**
0.500% Notes due 2031	**—**	**The Nasdaq Stock Market LLC**
3.600% Notes due 2042	**—**	**The Nasdaq Stock Market LLC**

Securities registered pursuant to Section 12(g) of the Act: None

Indicate by check mark if the Registrant is a well-known seasoned issuer, as defined in Rule 405 of the Securities Act.

Yes ☒ No ☐

Indicate by check mark if the Registrant is not required to file reports pursuant to Section 13 or Section 15(d) of the Act.

Yes ☐ No ☒

Indicate by check mark whether the Registrant (1) has filed all reports required to be filed by Section 13 or 15(d) of the Securities Exchange Act of 1934 during the preceding 12 months (or for such shorter period that the Registrant was required to file such reports), and (2) has been subject to such filing requirements for the past 90 days.

Yes ☒ No ☐

Indicate by check mark whether the Registrant has submitted electronically every Interactive Data File required to be submitted pursuant to Rule 405 of Regulation S-T (§232.405 of this chapter) during the preceding 12 months (or for such shorter period that the Registrant was required to submit such files).

Yes ☒ No ☐

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Indicate by check mark whether the Registrant is a large accelerated filer, an accelerated filer, a non-accelerated filer, a smaller reporting company, or an emerging growth company. See the definitions of “large accelerated filer,” “accelerated filer,” “smaller reporting company,” and “emerging growth company” in Rule 12b-2 of the Exchange Act.

Large accelerated filer	☒	Accelerated filer	☐
Non-accelerated filer	☐	Smaller reporting company	☐
		Emerging growth company	☐

If an emerging growth company, indicate by check mark if the Registrant has elected not to use the extended transition period for complying with any new or revised financial accounting standards provided pursuant to Section 13(a) of the Exchange Act. ☐

Indicate by check mark whether the Registrant has filed a report on and attestation to its management’s assessment of the effectiveness of its internal control over financial reporting under Section 404(b) of the Sarbanes-Oxley Act (15 U.S.C. 7262(b)) by the registered public accounting firm that prepared or issued its audit report. ☒

Indicate by check mark whether the Registrant is a shell company (as defined in Rule 12b-2 of the Act).

Yes ☐ No ☒

The aggregate market value of the voting and non-voting stock held by non-affiliates of the Registrant, as of March 27, 2020, the last business day of the Registrant’s most recently completed second fiscal quarter, was approximately $1,070,633,000,000. Solely for purposes of this disclosure, shares of common stock held by executive officers and directors of the Registrant as of such date have been excluded because such persons may be deemed to be affiliates. This determination of executive officers and directors as affiliates is not necessarily a conclusive determination for any other purposes.

17,001,802,000 shares of common stock were issued and outstanding as of October 16, 2020.

DOCUMENTS INCORPORATED BY REFERENCE

Portions of the Registrant’s definitive proxy statement relating to its 2021 annual meeting of shareholders (the “2021 Proxy Statement”) are incorporated by reference into Part III of this Annual Report on Form 10-K where indicated. The 2021 Proxy Statement will be filed with the U.S. Securities and Exchange Commission within 120 days after the end of the fiscal year to which this report relates.

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Apple Inc.

Form 10-K

For the Fiscal Year Ended September 26, 2020

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This Annual Report on Form 10-K ("Form 10-K") contains forward-looking statements, within the meaning of the Private Securities Litigation Reform Act of 1995, that involve risks and uncertainties. Many of the forward-looking statements are located in Part II, Item 7 of this Form 10-K under the heading "Management's Discussion and Analysis of Financial Condition and Results of Operations." Forward-looking statements provide current expectations of future events based on certain assumptions and include any statement that does not directly relate to any historical or current fact. For example, statements in this Form 10-K regarding the potential future impact of the COVID-19 pandemic on the Company's business and results of operations are forward-looking statements. Forward-looking statements can also be identified by words such as "future," "anticipates," "believes," "estimates," "expects," "intends," "plans," "predicts," "will," "would," "could," "can," "may," and similar terms. Forward-looking statements are not guarantees of future performance and the Company's actual results may differ significantly from the results discussed in the forward-looking statements. Factors that might cause such differences include, but are not limited to, those discussed in Part I, Item 1A of this Form 10-K under the heading "Risk Factors." The Company assumes no obligation to revise or update any forward-looking statements for any reason, except as required by law.

Unless otherwise stated, all information presented herein is based on the Company's fiscal calendar, and references to particular years, quarters, months or periods refer to the Company's fiscal years ended in September and the associated quarters, months and periods of those fiscal years. Each of the terms the "Company" and "Apple" as used herein refers collectively to Apple Inc. and its wholly owned subsidiaries, unless otherwise stated.

PART I

Item 1. Business

Company Background

The Company designs, manufactures and markets smartphones, personal computers, tablets, wearables and accessories, and sells a variety of related services. The Company's fiscal year is the 52- or 53-week period that ends on the last Saturday of September. The Company is a California corporation established in 1977.

Products

iPhone

iPhone® is the Company's line of smartphones based on its iOS operating system. During 2020, the Company released a new iPhone SE. In October 2020, the Company announced four new iPhone models with 5G technology: iPhone 12 and iPhone 12 Pro were available starting in October 2020, and iPhone 12 Pro Max and iPhone 12 mini are both expected to be available in November 2020.

Mac

Mac® is the Company's line of personal computers based on its macOS® operating system. During 2020, the Company released a new 16-inch MacBook Pro®, a fully redesigned Mac Pro®, and updated versions of its MacBook Air®, 13-inch MacBook Pro and 27-inch iMac®.

iPad

iPad® is the Company's line of multi-purpose tablets based on its iPadOS® operating system. During 2020, the Company released an updated iPad Pro®. In September 2020, the Company released an eighth-generation iPad and introduced an all-new iPad Air®, which was available starting in October 2020.

Wearables, Home and Accessories

Wearables, Home and Accessories includes AirPods®, Apple TV®, Apple Watch®, Beats® products, HomePod®, iPod touch® and other Apple-branded and third-party accessories. AirPods are the Company's wireless headphones that interact with Siri®. During 2020, the Company released AirPods Pro®. Apple Watch is the Company's line of smart watches based on its watchOS® operating system. In September 2020, the Company released Apple Watch Series 6 and a new Apple Watch SE. In October 2020, the Company announced HomePod mini™, which is expected to be available in November 2020.

Services

Advertising

The Company's advertising services include various third-party licensing arrangements and the Company's own advertising platforms.

AppleCare

The Company offers a portfolio of fee-based service and support products under the AppleCare® brand. The offerings provide priority access to Apple technical support, access to the global Apple authorized service network for repair and replacement services, and in many cases additional coverage for instances of accidental damage and/or theft and loss, depending on the country and type of product.

Cloud Services

The Company's cloud services store and keep customers' content up-to-date and available across multiple Apple devices and Windows personal computers.

Digital Content

The Company operates various platforms, including the App Store®, that allow customers to discover and download applications and digital content, such as books, music, video, games and podcasts.

The Company also offers digital content through subscription-based services, including Apple Arcade℠, a game subscription service; Apple Music®, which offers users a curated listening experience with on-demand radio stations; Apple News+℠, a subscription news and magazine service; and Apple TV+℠, which offers exclusive original content. In September 2020, the Company announced Apple Fitness+℠, a personalized fitness service built for Apple Watch, which is expected to be available before the end of calendar 2020.

Payment Services

The Company offers payment services, including Apple Card™, a co-branded credit card, and Apple Pay®, a cashless payment service.

Markets and Distribution

The Company's customers are primarily in the consumer, small and mid-sized business, education, enterprise and government markets. The Company sells its products and resells third-party products in most of its major markets directly to consumers, small and mid-sized businesses, and education, enterprise and government customers through its retail and online stores and its direct sales force. The Company also employs a variety of indirect distribution channels, such as third-party cellular network carriers, wholesalers, retailers and resellers. During 2020, the Company's net sales through its direct and indirect distribution channels accounted for 34% and 66%, respectively, of total net sales.

No single customer accounted for more than 10% of net sales in 2020, 2019 and 2018.

Competition

The markets for the Company's products and services are highly competitive, and are characterized by aggressive price competition and resulting downward pressure on gross margins, frequent introduction of new products and services, short product life cycles, evolving industry standards, continual improvement in product price and performance characteristics, rapid adoption of technological advancements by competitors, and price sensitivity on the part of consumers and businesses. Many of the Company's competitors seek to compete primarily through aggressive pricing and very low cost structures, and by emulating the Company's products and infringing on its intellectual property.

The Company's ability to compete successfully depends heavily on ensuring the continuing and timely introduction of innovative new products, services and technologies to the marketplace. The Company believes it is unique in that it designs and develops nearly the entire solution for its products, including the hardware, operating system, numerous software applications and related services. Principal competitive factors important to the Company include price, product and service features (including security features), relative price and performance, product and service quality and reliability, design innovation, a strong third-party software and accessories ecosystem, marketing and distribution capability, service and support, and corporate reputation.

The Company is focused on expanding its market opportunities related to smartphones, personal computers, tablets and other electronic devices and services. The Company faces substantial competition in these markets from companies that have significant technical, marketing, distribution and other resources, as well as established hardware, software, and service offerings with large customer bases. In addition, some of the Company's competitors have broader product lines, lower-priced products and a larger installed base of active devices. Competition has been particularly intense as competitors have aggressively cut prices and lowered product margins. Certain competitors may have the resources, experience or cost structures to provide products at little or no profit or even at a loss. The Company's services compete with business models that provide content to users for free and use illegitimate means to obtain third-party digital content and applications. The Company expects competition in these markets to intensify significantly as competitors imitate the Company's product features and applications within their products, or collaborate to offer integrated solutions that are more competitive than those they currently offer.

Supply of Components

Although most components essential to the Company's business are generally available from multiple sources, certain components are currently obtained from single or limited sources. The Company also competes for various components with other participants in the markets for smartphones, personal computers, tablets and other electronic devices. Therefore, many components used by the Company, including those that are available from multiple sources, are at times subject to industry-wide shortage and significant commodity pricing fluctuations.

The Company uses some custom components that are not commonly used by its competitors, and new products introduced by the Company often utilize custom components available from only one source. When a component or product uses new technologies, initial capacity constraints may exist until the suppliers' yields have matured or their manufacturing capacities have increased. The continued availability of these components at acceptable prices, or at all, may be affected if suppliers decide to concentrate on the production of common components instead of components customized to meet the Company's requirements.

The Company has entered into agreements for the supply of many components; however, there can be no guarantee that the Company will be able to extend or renew these agreements on similar terms, or at all.

Substantially all of the Company's hardware products are manufactured by outsourcing partners that are located primarily in Asia, with some Mac computers manufactured in the U.S. and Ireland.

Research and Development

Because the industries in which the Company competes are characterized by rapid technological advances, the Company's ability to compete successfully depends heavily upon its ability to ensure a continual and timely flow of competitive products, services and technologies to the marketplace. The Company continues to develop new technologies to enhance existing products and services, and to expand the range of its offerings through research and development ("R&D"), licensing of intellectual property and acquisition of third-party businesses and technology.

Intellectual Property

The Company currently holds a broad collection of intellectual property rights relating to certain aspects of its hardware devices, accessories, software and services. This includes patents, copyrights, trademarks, service marks, trade dress and other forms of intellectual property rights in the U.S. and various foreign countries. Although the Company believes the ownership of such intellectual property rights is an important factor in its business and that its success does depend in part on such ownership, the Company relies primarily on the innovative skills, technical competence and marketing abilities of its personnel.

The Company regularly files patent applications to protect innovations arising from its research, development and design, and is currently pursuing thousands of patent applications around the world. Over time, the Company has accumulated a large portfolio of issued patents, including utility patents, design patents and others. The Company also holds copyrights relating to certain aspects of its products and services. No single intellectual property right is solely responsible for protecting the Company's products. The Company believes the duration of its intellectual property rights is adequate relative to the expected lives of its products.

In addition to Company-owned intellectual property, many of the Company's products and services are designed to include intellectual property owned by third parties. It may be necessary in the future to seek or renew licenses relating to various aspects of the Company's products, processes and services. While the Company has generally been able to obtain such licenses on commercially reasonable terms in the past, there is no guarantee that such licenses could be obtained in the future on reasonable terms or at all.

Business Seasonality and Product Introductions

The Company has historically experienced higher net sales in its first quarter compared to other quarters in its fiscal year due in part to seasonal holiday demand. Additionally, new product and service introductions can significantly impact net sales, cost of sales and operating expenses. The timing of product introductions can also impact the Company's net sales to its indirect distribution channels as these channels are filled with new inventory following a product launch, and channel inventory of an older product often declines as the launch of a newer product approaches. Net sales can also be affected when consumers and distributors anticipate a product introduction.

Employees

As of September 26, 2020, the Company had approximately 147,000 full-time equivalent employees.

Available Information

The Company's Annual Reports on Form 10-K, Quarterly Reports on Form 10-Q, Current Reports on Form 8-K, and amendments to reports filed pursuant to Sections 13(a) and 15(d) of the Securities Exchange Act of 1934, as amended (the "Exchange Act"), are filed with the Securities and Exchange Commission (the "SEC"). Such reports and other information filed by the Company with the SEC are available free of charge at investor.apple.com/investor-relations/sec-filings/default.aspx when such reports are available on the SEC's website. The Company periodically provides other information for investors on its corporate website, www.apple.com, and its investor relations website, investor.apple.com. This includes press releases and other information about financial performance, information on corporate governance and details related to the Company's annual meeting of shareholders. The information contained on the websites referenced in this Form 10-K is not incorporated by reference into this filing. Further, the Company's references to website URLs are intended to be inactive textual references only.

Item 1A. Risk Factors

The following discussion of risk factors contains forward-looking statements. These risk factors may be important to understanding other statements in this Form 10-K. The following information should be read in conjunction with Part II, Item 7, “Management’s Discussion and Analysis of Financial Condition and Results of Operations” and the consolidated financial statements and accompanying notes in Part II, Item 8, “Financial Statements and Supplementary Data” of this Form 10-K.

The business, financial condition and operating results of the Company can be affected by a number of factors, whether currently known or unknown, including but not limited to those described below, any one or more of which could, directly or indirectly, cause the Company’s actual financial condition and operating results to vary materially from past, or from anticipated future, financial condition and operating results. Any of these factors, in whole or in part, could materially and adversely affect the Company’s business, financial condition, operating results and stock price.

Because of the following factors, as well as other factors affecting the Company’s financial condition and operating results, past financial performance should not be considered to be a reliable indicator of future performance, and investors should not use historical trends to anticipate results or trends in future periods.

The Company’s business, results of operations, financial condition and stock price have been adversely affected and could in the future be materially adversely affected by the COVID-19 pandemic.

COVID-19 has spread rapidly throughout the world, prompting governments and businesses to take unprecedented measures in response. Such measures have included restrictions on travel and business operations, temporary closures of businesses, and quarantines and shelter-in-place orders. The COVID-19 pandemic has significantly curtailed global economic activity and caused significant volatility and disruption in global financial markets.

The COVID-19 pandemic and the measures taken by many countries in response have adversely affected and could in the future materially adversely impact the Company’s business, results of operations, financial condition and stock price. Following the initial outbreak of the virus, the Company experienced disruptions to its manufacturing, supply chain and logistical services provided by outsourcing partners, resulting in temporary iPhone supply shortages that affected sales worldwide. During the course of the pandemic, the Company’s retail stores, as well as channel partner points of sale, have been temporarily closed at various times. In many cases, where stores and points of sale have reopened they are subject to operating restrictions to protect public health and the health and safety of employees and customers. The Company has at times required substantially all of its employees to work remotely.

The Company is continuing to monitor the situation and take appropriate actions in accordance with the recommendations and requirements of relevant authorities. The full extent of the impact of the COVID-19 pandemic on the Company’s operational and financial performance is currently uncertain and will depend on many factors outside the Company’s control, including, without limitation, the timing, extent, trajectory and duration of the pandemic, the development and availability of effective treatments and vaccines, the imposition of and compliance with protective public safety measures, and the impact of the pandemic on the global economy and demand for consumer products. Additional future impacts on the Company may include, but are not limited to, material adverse effects on: demand for the Company’s products and services; the Company’s supply chain and sales and distribution channels; the Company’s ability to execute its strategic plans; and the Company’s profitability and cost structure.

To the extent the COVID-19 pandemic adversely affects the Company’s business, results of operations, financial condition and stock price, it may also have the effect of heightening many of the other risks described in this Part I, Item 1A of this Form 10-K.

Global and regional economic conditions could materially adversely affect the Company’s business, results of operations, financial condition and growth.

The Company has international operations with sales outside the U.S. representing a majority of the Company’s total net sales. In addition, a majority of the Company’s supply chain, and its manufacturing and assembly activities, are located outside the U.S. As a result, the Company’s operations and performance depend significantly on global and regional economic conditions.

Adverse macroeconomic conditions, including inflation, slower growth or recession, new or increased tariffs and other barriers to trade, changes to fiscal and monetary policy, tighter credit, higher interest rates, high unemployment and currency fluctuations could materially adversely affect demand for the Company’s products and services. In addition, consumer confidence and spending could be adversely affected in response to financial market volatility, negative financial news, conditions in the real estate and mortgage markets, declines in income or asset values, changes to fuel and other energy costs, labor and healthcare costs and other economic factors.

In addition to an adverse impact on demand for the Company's products, uncertainty about, or a decline in, global or regional economic conditions could have a significant impact on the Company's suppliers, contract manufacturers, logistics providers, distributors, cellular network carriers and other channel partners. Potential effects include financial instability; inability to obtain credit to finance operations and purchases of the Company's products; and insolvency.

A downturn in the economic environment could also lead to increased credit and collectibility risk on the Company's trade receivables; the failure of derivative counterparties and other financial institutions; limitations on the Company's ability to issue new debt; reduced liquidity; and declines in the fair value of the Company's financial instruments. These and other economic factors could materially adversely affect the Company's business, results of operations, financial condition and growth.

Global markets for the Company's products and services are highly competitive and subject to rapid technological change, and the Company may be unable to compete effectively in these markets.

The Company's products and services are offered in highly competitive global markets characterized by aggressive price competition and resulting downward pressure on gross margins, frequent introduction of new products and services, short product life cycles, evolving industry standards, continual improvement in product price and performance characteristics, rapid adoption of technological advancements by competitors, and price sensitivity on the part of consumers and businesses.

The Company's ability to compete successfully depends heavily on ensuring the continuing and timely introduction of innovative new products, services and technologies to the marketplace. The Company believes it is unique in that it designs and develops nearly the entire solution for its products, including the hardware, operating system, numerous software applications and related services. As a result, the Company must make significant investments in R&D. There can be no assurance that these investments will achieve expected returns, and the Company may not be able to develop and market new products and services successfully.

The Company currently holds a significant number of patents, trademarks and copyrights and has registered, and applied to register, numerous patents, trademarks and copyrights. In contrast, many of the Company's competitors seek to compete primarily through aggressive pricing and very low cost structures, and by emulating the Company's products and infringing on its intellectual property. Effective intellectual property protection may not be consistently available in every country in which the Company operates. If the Company is unable to continue to develop and sell innovative new products with attractive margins or if competitors infringe on the Company's intellectual property, the Company's ability to maintain a competitive advantage could be adversely affected.

The Company has a minority market share in the global smartphone, personal computer and tablet markets. The Company faces substantial competition in these markets from companies that have significant technical, marketing, distribution and other resources, as well as established hardware, software and digital content supplier relationships. In addition, some of the Company's competitors have broader product lines, lower-priced products and a larger installed base of active devices. Competition has been particularly intense as competitors have aggressively cut prices and lowered product margins. Certain competitors may have the resources, experience or cost structures to provide products at little or no profit or even at a loss. Some of the markets in which the Company competes have from time to time experienced little to no growth or contracted overall.

Additionally, the Company faces significant competition as competitors imitate the Company's product features and applications within their products or collaborate to offer solutions that are more competitive than those they currently offer. The Company also expects competition to intensify as competitors imitate the Company's approach to providing components seamlessly within their offerings or work collaboratively to offer integrated solutions.

The Company's services also face substantial competition, including from companies that have significant resources and experience and have established service offerings with large customer bases. The Company competes with business models that provide content to users for free. The Company also competes with illegitimate means to obtain third-party digital content and applications.

The Company's financial condition and operating results depend substantially on the Company's ability to continually improve its products and services to maintain their functional and design advantages. There can be no assurance the Company will be able to continue to provide products and services that compete effectively.

To remain competitive and stimulate customer demand, the Company must successfully manage frequent introductions and transitions of products and services.

Due to the highly volatile and competitive nature of the industries in which the Company competes, the Company must continually introduce new products, services and technologies, enhance existing products and services, effectively stimulate customer demand for new and upgraded products and services, and successfully manage the transition to these new and upgraded products and services. The success of new product and service introductions depends on a number of factors including, but not limited to, timely and successful development, market acceptance, the Company's ability to manage the risks associated with new product production ramp-up issues, the availability of application software for new products, the effective management of purchase commitments and inventory levels in line with anticipated product demand, the availability of products in appropriate quantities and at expected costs to meet anticipated demand, and the risk that new products and services may have quality or other defects or deficiencies. Accordingly, the Company cannot determine in advance the ultimate effect of new product and service introductions and transitions.

The Company depends on the performance of carriers, wholesalers, retailers and other resellers.

The Company distributes its products through cellular network carriers, wholesalers, retailers and resellers, many of whom distribute products from competing manufacturers. The Company also sells its products and resells third-party products in most of its major markets directly to consumers, small and mid-sized businesses, and education, enterprise and government customers through its retail and online stores and its direct sales force.

Some carriers providing cellular network service for iPhone offer financing, installment payment plans or subsidies for users' purchases of the device. There is no assurance that such offers will be continued at all or in the same amounts upon renewal of the Company's agreements with these carriers or in agreements the Company enters into with new carriers.

The Company has invested and will continue to invest in programs to enhance reseller sales, including staffing selected resellers' stores with Company employees and contractors, and improving product placement displays. These programs can require a substantial investment while not assuring return or incremental sales. The financial condition of these resellers could weaken, these resellers could stop distributing the Company's products, or uncertainty regarding demand for some or all of the Company's products could cause resellers to reduce their ordering and marketing of the Company's products.

The Company is exposed to the risk of write-downs on the value of its inventory and other assets, in addition to purchase commitment cancellation risk.

The Company records a write-down for product and component inventories that have become obsolete or exceed anticipated demand, or for which cost exceeds net realizable value. The Company also accrues necessary cancellation fee reserves for orders of excess products and components. The Company reviews long-lived assets, including capital assets held at its suppliers' facilities and inventory prepayments, for impairment whenever events or circumstances indicate the assets may not be recoverable. If the Company determines that an impairment has occurred, it records a write-down equal to the amount by which the carrying value of the asset exceeds its fair value. Although the Company believes its inventory, capital assets, inventory prepayments and other assets and purchase commitments are currently recoverable, no assurance can be given that the Company will not incur write-downs, fees, impairments and other charges given the rapid and unpredictable pace of product obsolescence in the industries in which the Company competes.

The Company orders components for its products and builds inventory in advance of product announcements and shipments. Manufacturing purchase obligations cover the Company's forecasted component and manufacturing requirements, typically for periods up to 150 days. Because the Company's markets are volatile, competitive and subject to rapid technology and price changes, there is a risk the Company will forecast incorrectly and order or produce excess or insufficient amounts of components or products, or not fully utilize firm purchase commitments.

Future operating results depend upon the Company's ability to obtain components in sufficient quantities on commercially reasonable terms.

Because the Company currently obtains certain components from single or limited sources, the Company is subject to significant supply and pricing risks. Many components, including those that are available from multiple sources, are at times subject to industry-wide shortages and significant commodity pricing fluctuations that could materially adversely affect the Company's financial condition and operating results. While the Company has entered into agreements for the supply of many components, there can be no assurance that the Company will be able to extend or renew these agreements on similar terms, or at all. Component suppliers may suffer from poor financial conditions, which can lead to business failure for the supplier or consolidation within a particular industry, further limiting the Company's ability to obtain sufficient quantities of components on commercially reasonable terms. The effects of global or regional economic conditions on the Company's suppliers, described in "*Global and regional economic conditions could materially adversely affect the Company's business, results of operations, financial condition and growth,*" above, also could affect the Company's ability to obtain components. Therefore, the Company remains subject to significant risks of supply shortages and price increases that could materially adversely affect its financial condition and operating results.

The Company's new products often utilize custom components available from only one source. When a component or product uses new technologies, initial capacity constraints may exist until the suppliers' yields have matured or their manufacturing capacities have increased. The continued availability of these components at acceptable prices, or at all, can be affected for any number of reasons, including if suppliers decide to concentrate on the production of common components instead of components customized to meet the Company's requirements. If the Company's supply of components for a new or existing product were delayed or constrained, or if an outsourcing partner delayed shipments of completed products to the Company, the Company's financial condition and operating results could be materially adversely affected. The Company's business and financial performance could also be materially adversely affected depending on the time required to obtain sufficient quantities from the source, or to identify and obtain sufficient quantities from an alternative source.

The Company depends on component and product manufacturing and logistical services provided by outsourcing partners, many of which are located outside of the U.S.

Substantially all of the Company's manufacturing is performed in whole or in part by outsourcing partners located primarily in Asia. A significant concentration of this manufacturing is currently performed by a small number of outsourcing partners, often in single locations. The Company has also outsourced much of its transportation and logistics management. While these arrangements can lower operating costs, they also reduce the Company's direct control over production and distribution. Such diminished control may have an adverse effect on the quality or quantity of products or services, or the Company's flexibility to respond to changing conditions. Although arrangements with these partners may contain provisions for product defect expense reimbursement, the Company generally remains responsible to the consumer for warranty and out-of-warranty service in the event of product defects and could experience an unanticipated product defect liability. While the Company relies on its partners to adhere to its supplier code of conduct, material violations of the supplier code of conduct could occur.

The Company relies on single-source outsourcing partners in the U.S., Asia and Europe to supply and manufacture many components, and on outsourcing partners primarily located in Asia, for final assembly of substantially all of the Company's hardware products. Any failure of these partners to perform can have a negative impact on the Company's cost or supply of components or finished goods. In addition, manufacturing or logistics in these locations or transit to final destinations can be disrupted for a variety of reasons including, but not limited to, natural and man-made disasters, information technology system failures, commercial disputes, military actions, economic, business, labor, environmental, public health or political issues, or international trade disputes.

The Company has invested in manufacturing process equipment, much of which is held at certain of its outsourcing partners, and has made prepayments to certain of its suppliers associated with long-term supply agreements. While these arrangements help ensure the supply of components and finished goods, if these outsourcing partners or suppliers experience severe financial problems or other disruptions in their business, such continued supply can be reduced or terminated, and the recoverability of manufacturing process equipment or prepayments can be negatively impacted.

The Company's products and services may be affected from time to time by design and manufacturing defects that could materially adversely affect the Company's business and result in harm to the Company's reputation.

The Company offers complex hardware and software products and services that can be affected by design and manufacturing defects. Sophisticated operating system software and applications, such as those offered by the Company, often have issues that can unexpectedly interfere with the intended operation of hardware or software products. Defects can also exist in components and products the Company purchases from third parties. Component defects could make the Company's products unsafe and create a risk of environmental or property damage and personal injury. These risks may increase as the Company's products are introduced into specialized applications, including healthcare. In addition, the Company's service offerings may have quality issues and from time to time experience outages, service slowdowns or errors. As a result, the Company's services may not perform as anticipated and may not meet customer expectations. There can be no assurance the Company will be able to detect and fix all issues and defects in the hardware, software and services it offers. Failure to do so could result in widespread technical and performance issues affecting the Company's products and services. In addition, the Company can be exposed to product liability claims, recalls, product replacements or modifications, write-offs of inventory, property, plant and equipment, and/or intangible assets, and significant warranty and other expenses, including litigation costs and regulatory fines. Quality problems can also adversely affect the experience for users of the Company's products and services, and result in harm to the Company's reputation, loss of competitive advantage, poor market acceptance, reduced demand for products and services, delay in new product and service introductions and lost sales.

The Company relies on access to third-party digital content, which may not be available to the Company on commercially reasonable terms or at all.

The Company contracts with numerous third parties to offer their digital content to customers. This includes the right to sell currently available content. The licensing or other distribution arrangements with these third parties are for relatively short terms and do not guarantee the continuation or renewal of these arrangements on commercially reasonable terms, if at all. Some third-party content providers and distributors currently or in the future may offer competing products and services, and can take actions to make it more difficult or impossible for the Company to license or otherwise distribute their content in the future. Other content owners, providers or distributors may seek to limit the Company's access to, or increase the cost of, such content. The Company may be unable to continue to offer a wide variety of content at commercially reasonable prices with acceptable usage rules, or continue to expand its geographic reach. Failure to obtain the right to make third-party digital content available, or to make such content available on commercially reasonable terms, could have a material adverse impact on the Company's financial condition and operating results.

Some third-party digital content providers require the Company to provide digital rights management and other security solutions. If requirements change, the Company may have to develop or license new technology to provide these solutions. There is no assurance the Company will be able to develop or license such solutions at a reasonable cost and in a timely manner. In addition, certain countries have passed or may propose and adopt legislation that would force the Company to license its digital rights management, which could lessen the protection of content and subject it to piracy and also could negatively affect arrangements with the Company's content providers.

The Company's future performance depends in part on support from third-party software developers.

The Company believes decisions by customers to purchase its hardware products depend in part on the availability of third-party software applications and services. There is no assurance that third-party developers will continue to develop and maintain software applications and services for the Company's products. If third-party software applications and services cease to be developed and maintained for the Company's products, customers may choose not to buy the Company's products.

The Company believes the availability of third-party software applications and services for its products depends in part on the developers' perception and analysis of the relative benefits of developing, maintaining and upgrading such software and services for the Company's products compared to competitors' platforms, such as Android for smartphones and tablets and Windows for personal computers. This analysis may be based on factors such as the market position of the Company and its products, the anticipated revenue that may be generated, expected future growth of product sales, and the costs of developing such applications and services.

The Company's minority market share in the global smartphone, personal computer and tablet markets could make developers less inclined to develop or upgrade software for the Company's products and more inclined to devote their resources to developing and upgrading software for competitors' products with larger market share. If developers focus their efforts on these competing platforms, the availability and quality of applications for the Company's devices may suffer.

The Company relies on the continued availability and development of compelling and innovative software applications for its products. The Company's products and operating systems are subject to rapid technological change, and if third-party developers are unable to or choose not to keep up with this pace of change, third-party applications might not take advantage of these changes to deliver improved customer experiences or might not operate correctly and may result in dissatisfied customers.

The Company sells and delivers third-party applications for its products through the App Store. For the vast majority of applications, developers keep all of the revenue they generate on the App Store. The Company only retains a commission from sales of applications through its platforms and in situations where a developer offers purchases for digital features, services, or goods within an application. If developers reduce their use of the Company's platforms, including in-app purchases, then the volume of sales, and the commission that the Company earns on those sales, would decrease. If the rate of the commission that the Company retains on such sales is reduced, or if it is otherwise narrowed in scope or eliminated, the Company's financial condition and operating results could be materially adversely affected.

The Company relies on access to third-party intellectual property, which may not be available to the Company on commercially reasonable terms or at all.

Many of the Company's products and services are designed to include intellectual property owned by third parties, which requires licenses from those third parties. In addition, because of technological changes in the industries in which the Company currently competes or in the future may compete, current extensive patent coverage and the rapid rate of issuance of new patents, the Company's products and services may unknowingly infringe existing patents or intellectual property rights of others. From time to time, the Company has been notified that it may be infringing certain patents or other intellectual property rights of third parties. Based on experience and industry practice, the Company believes licenses to such third-party intellectual property can generally be obtained on commercially reasonable terms. There is, however, no assurance that the necessary licenses can be obtained on commercially reasonable terms or at all. Failure to obtain the right to use third-party intellectual property, or to use such intellectual property on commercially reasonable terms, could preclude the Company from selling certain products or services, or otherwise have a material adverse impact on the Company's financial condition and operating results.

The Company's financial condition and operating results could be adversely impacted by unfavorable results of legal proceedings or government investigations.

The Company is subject to various claims, legal proceedings and government investigations that have arisen in the ordinary course of business and have not yet been fully resolved, and new matters may arise in the future. In addition, agreements entered into by the Company sometimes include indemnification provisions which can subject the Company to costs and damages in the event of a claim against an indemnified third party. The number of claims, legal proceedings and government investigations involving the Company, and the alleged magnitude of such claims, proceedings and government investigations, has generally increased over time and may continue to increase.

The Company has faced and continues to face a significant number of patent claims relating to its cellular-enabled products, and new claims may arise in the future. For example, technology and other patent-holding companies frequently assert their patents and seek royalties and often enter into litigation based on allegations of patent infringement or other violations of intellectual property rights. The Company is vigorously defending infringement actions in courts in several U.S. jurisdictions, as well as internationally in various countries. The plaintiffs in these actions frequently seek injunctions and substantial damages.

Regardless of the merit of particular claims, defending against litigation or responding to government investigations can be expensive, time-consuming, disruptive to the Company's operations and distracting to management. In recognition of these considerations, the Company may enter into agreements or other arrangements to settle litigation and resolve such challenges. No assurance can be given that such agreements can be obtained on acceptable terms or that litigation will not occur. These agreements may also significantly increase the Company's cost of sales and operating expenses.

Except as described in Part II, Item 8 of this Form 10-K in the Notes to Consolidated Financial Statements in Note 10, "Commitments and Contingencies" under the heading "Contingencies," in the opinion of management, there was not at least a reasonable possibility the Company may have incurred a material loss, or a material loss greater than a recorded accrual, concerning loss contingencies for asserted legal and other claims, including matters related to infringement of intellectual property rights.

The outcome of litigation or government investigations is inherently uncertain. If one or more legal matters were resolved against the Company or an indemnified third party in a reporting period for amounts above management's expectations, the Company's financial condition and operating results for that reporting period could be materially adversely affected. Further, such an outcome could result in significant compensatory, punitive or trebled monetary damages, disgorgement of revenue or profits, remedial corporate measures or injunctive relief against the Company, and could require the Company to change its business practices or limit the Company's ability to offer certain products and services, all of which could materially adversely affect its financial condition and operating results.

While the Company maintains insurance coverage for certain types of claims, such insurance coverage may be insufficient to cover all losses or all types of claims that may arise.

The Company is subject to complex and changing laws and regulations worldwide, which exposes the Company to potential liabilities, increased costs and other adverse effects on the Company's business.

The Company's global operations are subject to complex and changing laws and regulations on subjects including, but not limited to: antitrust; privacy, data security and data localization; consumer protection; advertising, sales, billing and e-commerce; product liability; intellectual property ownership and infringement; digital platforms; Internet, telecommunications, and mobile communications; media, television, film and digital content; availability of third-party software applications and services; labor and employment; anti-corruption; import, export and trade; foreign exchange controls and cash repatriation restrictions; anti–money laundering; foreign ownership and investment; tax; and environmental, health and safety.

Compliance with these laws and regulations may be onerous and expensive, increasing the cost of conducting the Company's global operations. Changes to laws and regulations can adversely affect the Company's business by increasing the Company's costs, limiting the Company's ability to offer a product or service to customers, requiring changes to the Company's supply chain and business practices or otherwise making the Company's products and services less attractive to customers. The Company has implemented policies and procedures designed to ensure compliance with applicable laws and regulations, but there can be no assurance that the Company's employees, contractors or agents will not violate such laws and regulations or the Company's policies and procedures. If the Company is found to have violated laws and regulations, it could materially adversely affect the Company's reputation, financial condition and operating results.

The technology industry, including, in some instances, the Company, is subject to intense media, political and regulatory scrutiny, which exposes the Company to government investigations, legal actions and penalties. For example, the Company is subject to antitrust investigations in various jurisdictions around the world, which can result in legal proceedings and claims against the Company that could, individually or in the aggregate, have a materially adverse impact on the Company's financial condition and operating results. In addition, if enacted, legislative and other proposals to further regulate technology companies could result in changes to the Company's business, including requiring the Company to modify its product and service offerings, limiting the Company's ability to invest in strategic acquisitions, or affecting the Company's business relationships with other technology companies, and could have a materially adverse impact on the Company's financial condition and operating results. Further, the Company's business partners are or may become subject to litigation that, if resolved against them, could affect the Company's relationships with these business partners and have a materially adverse impact on the Company's financial condition and operating results. There can be no assurance that the Company's business will not be materially adversely affected, individually or in the aggregate, by the outcomes of such investigations, litigation or changes to laws and regulations in the future.

The Company's retail stores have required and will continue to require a substantial investment and commitment of resources and are subject to numerous risks and uncertainties.

The Company's retail stores have required substantial investment in equipment and leasehold improvements, information systems, inventory and personnel. The Company also has entered into substantial lease commitments for retail space. Certain stores have been designed and built to serve as high-profile venues to promote brand awareness. Because of their unique design elements, locations and size, these stores require substantially more investment than the Company's more typical retail stores. Due to the high cost structure associated with the Company's retail stores, a decline in sales or the closure or poor performance of an individual store or multiple stores, including as a result of protective public safety measures in response to the COVID-19 pandemic, could result in significant lease termination costs, write-offs of equipment and leasehold improvements and severance costs.

The Company's retail operations are subject to many factors that pose risks and uncertainties and could adversely impact the Company's financial condition and operating results, including macro-economic factors that could have an adverse effect on general retail activity. Other factors include, but are not limited to, the Company's ability to: manage costs associated with retail store construction and operation; manage relationships with existing retail partners; manage costs associated with fluctuations in the value of retail inventory; and obtain and renew leases in quality retail locations at a reasonable cost.

Investment in new business strategies and acquisitions could disrupt the Company's ongoing business, present risks not originally contemplated and adversely affect the Company's reputation, financial condition and operating results.

The Company has invested, and in the future may invest, in new business strategies or acquisitions. Such endeavors may involve significant risks and uncertainties, including distraction of management from current operations, greater-than-expected liabilities and expenses, economic, political, legal and regulatory challenges associated with operating in new businesses, regions or countries, inadequate return on capital, potential impairment of tangible and intangible assets, and significant write-offs. These new ventures are inherently risky and may not be successful. The failure of any significant investment could adversely affect the Company's reputation, financial condition and operating results.

The Company's business and reputation may be impacted by information technology system failures or network disruptions.

The Company is exposed to information technology system failures or network disruptions caused by natural disasters, accidents, power disruptions, telecommunications failures, acts of terrorism or war, computer viruses, physical or electronic break-ins, or other events or disruptions. System redundancy and other continuity measures may be ineffective or inadequate, and the Company's business continuity and disaster recovery planning may not be sufficient for all eventualities. Such failures or disruptions can adversely impact the Company's business by, among other things, preventing access to the Company's online services, interfering with customer transactions or impeding the manufacturing and shipping of the Company's products. These events could materially adversely affect the Company's reputation, financial condition and operating results.

There may be losses or unauthorized access to or releases of confidential information, including personally identifiable information, that could subject the Company to significant reputational, financial, legal and operational consequences.

The Company's business requires it to use and store confidential information including, among other things, personally identifiable information ("PII") with respect to the Company's customers and employees. The Company devotes significant resources to network and data security, including through the use of encryption and other security measures intended to protect its systems and data. But these measures cannot provide absolute security, and losses or unauthorized access to or releases of confidential information occur and could materially adversely affect the Company's reputation, financial condition and operating results.

The Company's business also requires it to share confidential information with suppliers and other third parties. Although the Company takes steps to secure confidential information that is provided to third parties, such measures are not always effective and losses or unauthorized access to or releases of confidential information occur and could materially adversely affect the Company's reputation, financial condition and operating results.

For example, the Company may experience a security breach impacting the Company's information technology systems that compromises the confidentiality, integrity or availability of confidential information. Such an incident could, among other things, impair the Company's ability to attract and retain customers for its products and services, impact the Company's stock price, materially damage supplier relationships, and expose the Company to litigation or government investigations, which could result in penalties, fines or judgments against the Company.

Although malicious attacks perpetrated to gain access to confidential information, including PII, affect many companies across various industries, the Company is at a relatively greater risk of being targeted because of its high profile and the value of the confidential information it creates, owns, manages, stores and processes.

The Company has implemented systems and processes intended to secure its information technology systems and prevent unauthorized access to or loss of sensitive data, including through the use of encryption and authentication technologies. As with all companies, these security measures may not be sufficient for all eventualities and may be vulnerable to hacking, employee error, malfeasance, system error, faulty password management or other irregularities. For example, third parties fraudulently induce employees or customers into disclosing user names, passwords or other sensitive information, which may, in turn, be used to access the Company's information technology systems. To help protect customers and the Company, the Company monitors its services and systems for unusual activity and may freeze accounts under suspicious circumstances, which, among other things, may result in the delay or loss of customer orders or impede customer access to the Company's products and services.

In addition to the risks relating to general confidential information described above, the Company is also subject to specific obligations relating to health data and payment card data. Health data is subject to additional privacy, security and breach notification requirements, and the Company can be subject to audit by governmental authorities regarding the Company's compliance with these obligations. If the Company fails to adequately comply with these rules and requirements, or if health data is handled in a manner not permitted by law or under the Company's agreements with healthcare institutions, the Company could be subject to litigation or government investigations, may be liable for associated investigatory expenses, and could also incur significant fees or fines.

Under payment card rules and obligations, if cardholder information is potentially compromised, the Company could be liable for associated investigatory expenses and could also incur significant fees or fines if the Company fails to follow payment card industry data security standards. The Company could also experience a significant increase in payment card transaction costs or lose the ability to process payment cards if it fails to follow payment card industry data security standards, which would materially adversely affect the Company's reputation, financial condition and operating results.

While the Company maintains insurance coverage that is intended to address certain aspects of data security risks, such insurance coverage may be insufficient to cover all losses or all types of claims that may arise.

The Company's business is subject to a variety of U.S. and international laws, rules, policies and other obligations regarding data protection.

The Company is subject to federal, state and international laws relating to the collection, use, retention, security and transfer of PII. In many cases, these laws apply not only to third-party transactions, but also may restrict transfers of PII among the Company and its international subsidiaries. Several jurisdictions have passed laws in this area, and other jurisdictions are considering imposing additional restrictions. These laws continue to develop and may be inconsistent from jurisdiction to jurisdiction. Complying with emerging and changing international requirements may cause the Company to incur substantial costs or require the Company to change its business practices. Noncompliance could result in significant penalties or legal liability.

The Company makes statements about its use and disclosure of PII through its privacy policy, information provided on its website and press statements. Any failure by the Company to comply with these public statements or with other federal, state or international privacy-related or data protection laws and regulations could result in proceedings against the Company by governmental entities or others. In addition to reputational impacts, penalties could include ongoing audit requirements and significant legal liability.

The Company's success depends largely on the continued service and availability of key personnel.

Much of the Company's future success depends on the continued availability and service of key personnel, including its Chief Executive Officer, executive team and other highly skilled employees. Experienced personnel in the technology industry are in high demand and competition for their talents is intense, especially in Silicon Valley, where most of the Company's key personnel are located.

The Company's business can be impacted by political events, international trade disputes, war, terrorism, natural disasters, public health issues, industrial accidents and other business interruptions.

Political events, international trade disputes, war, terrorism, natural disasters, public health issues, industrial accidents and other business interruptions could harm or disrupt international commerce and the global economy, and could have a material adverse effect on the Company and its customers, suppliers, contract manufacturers, logistics providers, distributors, cellular network carriers and other channel partners.

The Company has a large, global business, and the Company believes that it generally benefits from growth in international trade. International trade disputes can result in tariffs, sanctions, and other measures that restrict international trade and can adversely affect the Company's business. For example, tensions between the U.S. and China have led to a series of tariffs being imposed by the U.S. on imports from China mainland, as well as other business restrictions. Tariffs may increase the cost of the Company's products and the components and raw materials that go into making them. These increased costs adversely impact the gross margin that the Company earns on its products. Tariffs can also make the Company's products more expensive for customers, which could make the Company's products less competitive and reduce consumer demand. Countries may also adopt other measures, such as controls on imports or exports of goods, technology or data, that could adversely impact the Company's operations and supply chain and limit the Company's ability to offer its products and services as designed. These measures can require the Company to take various actions, including change suppliers, restructure business relationships, and stop offering third-party applications on its platforms. Changing the Company's operations in accordance with new or changed trade restrictions may be expensive, time-consuming, disruptive to the Company's operations and distracting to management. Trade restrictions may be announced with little or no advance notice and the Company may not be able to effectively mitigate all adverse impacts from such measures. Political uncertainty surrounding international trade disputes could also have a negative effect on consumer confidence and spending, which could adversely affect the Company's business.

Many of the Company's operations and facilities, as well as critical business operations of the Company's suppliers and contract manufacturers, are in locations that are prone to earthquakes and other natural disasters. In addition, such operations and facilities are subject to the risk of interruption by fire, power shortages, nuclear power plant accidents and other industrial accidents, terrorist attacks and other hostile acts, labor disputes, public health issues, including pandemics such as the COVID-19 pandemic, and other events beyond the Company's control. Global climate change could result in certain types of natural disasters occurring more frequently or with more intense effects. Such events could make it difficult or impossible for the Company to manufacture and deliver products to its customers, create delays and inefficiencies in the Company's supply and manufacturing chain, and result in slowdowns and outages to the Company's service offerings. Following an interruption to its business, the Company could require substantial recovery time, experience significant expenditures to resume operations, and lose significant sales. Because the Company relies on single or limited sources for the supply and manufacture of many critical components, a business interruption affecting such sources would exacerbate any negative consequences to the Company.

The Company's operations are also subject to the risks of industrial accidents at its suppliers and contract manufacturers. While the Company's suppliers are required to maintain safe working environments and operations, an industrial accident could occur and could result in disruption to the Company's business and harm to the Company's reputation. Major public health issues, including pandemics such as the COVID-19 pandemic, have adversely affected, and could in the future adversely affect, the Company due to their impact on the global economy and demand for consumer products; the imposition of protective public safety measures, such as stringent employee travel restrictions and limitations on freight services and the movement of products between regions; and disruptions in the Company's supply chain and sales and distribution channels, resulting in interruptions of the supply of current products and delays in production ramps of new products.

While the Company maintains insurance coverage for certain types of losses, such insurance coverage may be insufficient to cover all losses that may arise.

The Company expects its quarterly net sales and operating results to fluctuate.

The Company's profit margins vary across its products, services, geographic segments and distribution channels. For example, the gross margins on the Company's products and services vary significantly and can change over time. The Company's gross margins are subject to volatility and downward pressure due to a variety of factors, including: continued industry-wide global product pricing pressures and product pricing actions that the Company may take in response to such pressures; increased competition; the Company's ability to effectively stimulate demand for certain of its products and services; compressed product life cycles; potential increases in the cost of components, outside manufacturing services, and developing, acquiring and delivering content for the Company's services; the Company's ability to manage product quality and warranty costs effectively; shifts in the mix of products and services, or in the geographic, currency or channel mix; fluctuations in foreign exchange rates; and the introduction of new products or services, including new products or services with higher cost structures. These and other factors could have a materially adverse impact on the Company's financial condition and operating results.

The Company has historically experienced higher net sales in its first quarter compared to other quarters in its fiscal year due in part to seasonal holiday demand. Additionally, new product and service introductions can significantly impact net sales, cost of sales and operating expenses. Further, the Company generates a significant portion of its net sales from a single product and a decline in demand for that product could significantly impact quarterly net sales. The Company could also be subject to unexpected developments, such as lower-than-anticipated demand for the Company's products or services, issues with new product or service introductions, information technology system failures or network disruptions, or failure of one of the Company's logistics, components supply, or manufacturing partners.

The Company's stock price is subject to volatility.

The Company's stock price has experienced substantial price volatility in the past and may continue to do so in the future. Additionally, the Company, the technology industry and the stock market as a whole have experienced extreme stock price and volume fluctuations that have affected stock prices in ways that may have been unrelated to these companies' operating performance. Price volatility over a given period may cause the average price at which the Company repurchases its stock to exceed the stock's price at a given point in time. The Company believes its stock price should reflect expectations of future growth and profitability. The Company also believes its stock price should reflect expectations that its cash dividend will continue at current levels or grow, and that its current share repurchase program will be fully consummated. Future dividends are subject to declaration by the Company's Board of Directors, and the Company's share repurchase program does not obligate it to acquire any specific number of shares. If the Company fails to meet expectations related to future growth, profitability, dividends, share repurchases or other market expectations, its stock price may decline significantly, which could have a material adverse impact on investor confidence and employee retention.

The Company's financial performance is subject to risks associated with changes in the value of the U.S. dollar relative to local currencies.

The Company's primary exposure to movements in foreign currency exchange rates relates to non–U.S. dollar–denominated sales, cost of sales and operating expenses worldwide. Gross margins on the Company's products in foreign countries and on products that include components obtained from foreign suppliers could be materially adversely affected by foreign currency exchange rate fluctuations.

The weakening of foreign currencies relative to the U.S. dollar adversely affects the U.S. dollar value of the Company's foreign currency–denominated sales and earnings, and generally leads the Company to raise international pricing, potentially reducing demand for the Company's products. In some circumstances, for competitive or other reasons, the Company may decide not to raise international pricing to offset the U.S. dollar's strengthening, which would adversely affect the U.S. dollar value of the gross margins the Company earns on foreign currency–denominated sales.

Conversely, a strengthening of foreign currencies relative to the U.S. dollar, while generally beneficial to the Company's foreign currency–denominated sales and earnings, could cause the Company to reduce international pricing and incur losses on its foreign currency derivative instruments, thereby limiting the benefit. Additionally, strengthening of foreign currencies may increase the Company's cost of product components denominated in those currencies, thus adversely affecting gross margins.

The Company uses derivative instruments, such as foreign currency forward and option contracts, to hedge certain exposures to fluctuations in foreign currency exchange rates. The use of such hedging activities may not be effective to offset any, or more than a portion, of the adverse financial effects of unfavorable movements in foreign exchange rates over the limited time the hedges are in place.

The Company is exposed to credit risk and fluctuations in the values of its investment portfolio.

The Company's investments can be negatively affected by liquidity, credit deterioration, financial results, market and economic conditions, political risk, sovereign risk, interest rate fluctuations or other factors. As a result, the value and liquidity of the Company's cash, cash equivalents, and marketable and non-marketable securities may fluctuate substantially. Therefore, although the Company has not realized any significant losses on its cash, cash equivalents, and marketable and non-marketable securities, future fluctuations in their value could result in significant losses and could have a material adverse impact on the Company's financial condition and operating results.

The Company is exposed to credit risk on its trade accounts receivable, vendor non-trade receivables and prepayments related to long-term supply agreements, and this risk is heightened during periods when economic conditions worsen.

The Company distributes its products through third-party cellular network carriers, wholesalers, retailers and resellers. The Company also sells its products directly to small and mid-sized businesses and education, enterprise and government customers. A substantial majority of the Company's outstanding trade receivables are not covered by collateral, third-party bank support or financing arrangements, or credit insurance, and a significant portion of the Company's trade receivables can be concentrated within cellular network carriers or other resellers. The Company's exposure to credit and collectibility risk on its trade receivables is higher in certain international markets and its ability to mitigate such risks may be limited. The Company also has unsecured vendor non-trade receivables resulting from purchases of components by outsourcing partners and other vendors that manufacture sub-assemblies or assemble final products for the Company. In addition, the Company has made prepayments associated with long-term supply agreements to secure supply of inventory components. As of September 26, 2020, the Company's vendor non-trade receivables and prepayments related to long-term supply agreements were concentrated among a few individual vendors located primarily in Asia. While the Company has procedures to monitor and limit exposure to credit risk on its trade and vendor non-trade receivables, as well as long-term prepayments, there can be no assurance such procedures will effectively limit its credit risk and avoid losses.

The Company could be subject to changes in its tax rates, the adoption of new U.S. or international tax legislation or exposure to additional tax liabilities.

The Company is subject to taxes in the U.S. and numerous foreign jurisdictions, including Ireland, where a number of the Company's subsidiaries are organized. Due to economic and political conditions, tax rates in various jurisdictions may be subject to significant change. The Company's effective tax rates could be affected by changes in the mix of earnings in countries with differing statutory tax rates, changes in the valuation of deferred tax assets and liabilities, the introduction of new taxes, or changes in tax laws or their interpretation, including in the U.S. and Ireland.

The Company is also subject to the examination of its tax returns and other tax matters by the U.S. Internal Revenue Service and other tax authorities and governmental bodies. The Company regularly assesses the likelihood of an adverse outcome resulting from these examinations to determine the adequacy of its provision for taxes. There can be no assurance as to the outcome of these examinations. If the Company's effective tax rates were to increase, particularly in the U.S. or Ireland, or if the ultimate determination of the Company's taxes owed is for an amount in excess of amounts previously accrued, the Company's financial condition and operating results could be materially adversely affected.

Item 1B. Unresolved Staff Comments

None.

Item 2. Properties

The Company's headquarters are located in Cupertino, California. As of September 26, 2020, the Company owned or leased facilities and land for corporate functions, R&D, data centers, retail and other purposes at locations throughout the U.S. and in various places outside the U.S. The Company believes its existing facilities and equipment, which are used by all reportable segments, are in good operating condition and are suitable for the conduct of its business.

Item 3. Legal Proceedings

The Company is subject to legal proceedings and claims that have not been fully resolved and that have arisen in the ordinary course of business. The Company's material legal proceedings are described in Part II, Item 8 of this Form 10-K in the Notes to Consolidated Financial Statements in Note 10, "Commitments and Contingencies" under the heading "Contingencies."

The outcome of litigation is inherently uncertain. If one or more legal matters were resolved against the Company in a reporting period for amounts above management's expectations, the Company's financial condition and operating results for that reporting period could be materially adversely affected. The Company settled certain matters during the fourth quarter of 2020 that did not individually or in the aggregate have a material impact on the Company's financial condition or operating results.

Item 4. Mine Safety Disclosures

Not applicable.

PART II

Item 5. Market for Registrant's Common Equity, Related Stockholder Matters and Issuer Purchases of Equity Securities

The Company's common stock is traded on The Nasdaq Stock Market LLC under the symbol AAPL.

Common Stock Split

On August 28, 2020, the Company effected a four-for-one stock split to shareholders of record as of August 24, 2020. All share, restricted stock unit ("RSU") and per share or per RSU information has been retroactively adjusted to reflect the stock split.

Holders

As of October 16, 2020, there were 22,797 shareholders of record.

Purchases of Equity Securities by the Issuer and Affiliated Purchasers

Share repurchase activity during the three months ended September 26, 2020 was as follows (in millions, except number of shares, which are reflected in thousands, and per share amounts):

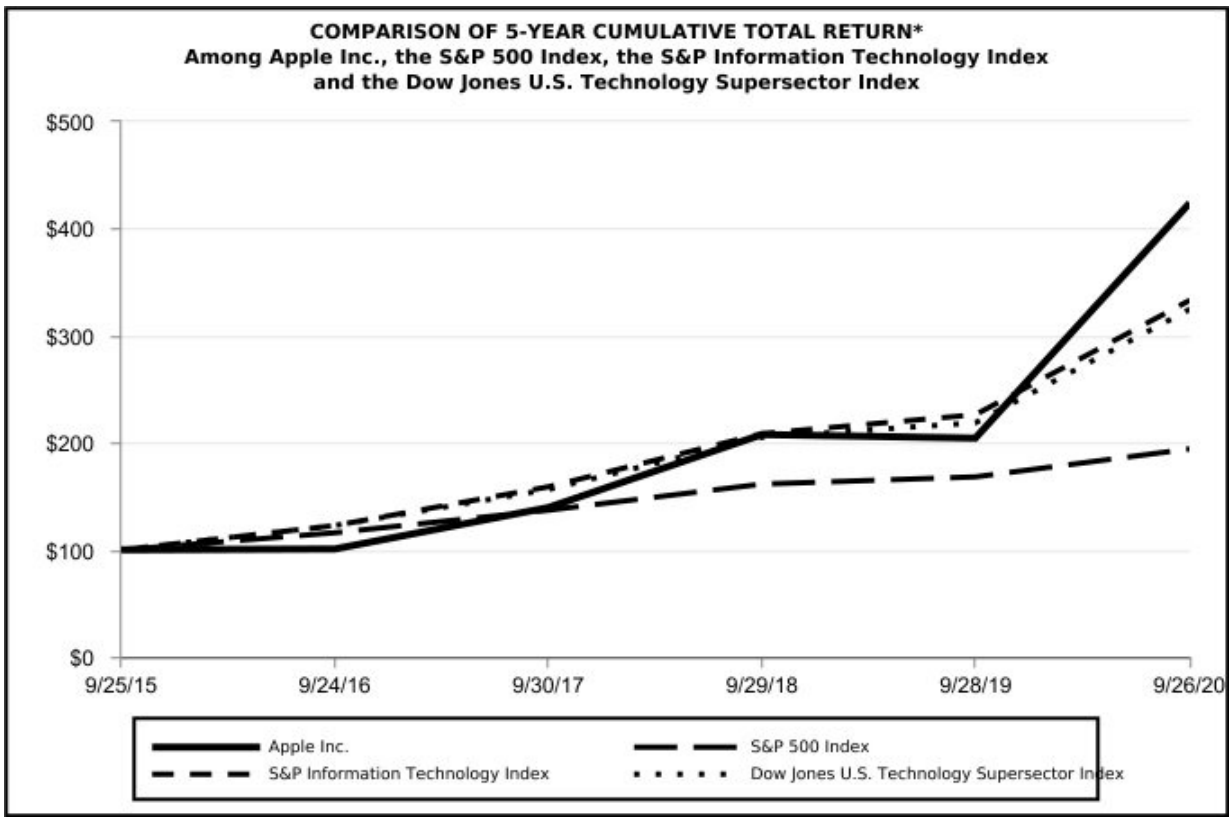
Periods	Total Number of Shares Purchased	Average Price Paid Per Share	Total Number of Shares Purchased as Part of Publicly Announced Plans or Programs	Approximate Dollar Value of Shares That May Yet Be Purchased Under the Plans or Programs [1]
June 28, 2020 to August 1, 2020:				
Open market and privately negotiated purchases	67,990	$ 94.68	67,990	
August 2, 2020 to August 29, 2020:				
May 2020 ASR	3,115	[2]	3,115	
Open market and privately negotiated purchases	40,004	$ 115.99	40,004	
August 30, 2020 to September 26, 2020:				
Open market and privately negotiated purchases	60,725	$ 114.00	60,725	
Total	171,834			$ 56,353

(1) As of September 26, 2020, the Company was authorized to purchase up to $225 billion of the Company's common stock under a share repurchase program announced on April 30, 2020, of which $168.6 billion had been utilized. The remaining $56.4 billion in the table represents the amount available to repurchase shares under the authorized repurchase program as of September 26, 2020. The Company's share repurchase program does not obligate it to acquire any specific number of shares. Under this program, shares may be repurchased in privately negotiated and/or open market transactions, including under plans complying with Rule 10b5-1 under the Exchange Act.

(2) In May 2020, the Company entered into an accelerated share repurchase arrangement ("ASR") to purchase up to $6.0 billion of the Company's common stock. In August 2020, the purchase period for this ASR ended and an additional 3 million shares were delivered and retired. In total, 64 million shares were delivered under this ASR at an average repurchase price of $94.14.

Company Stock Performance

The following graph shows a comparison of cumulative total shareholder return, calculated on a dividend-reinvested basis, for the Company, the S&P 500 Index, the S&P Information Technology Index and the Dow Jones U.S. Technology Supersector Index for the five years ended September 26, 2020. The graph assumes $100 was invested in each of the Company's common stock, the S&P 500 Index, the S&P Information Technology Index and the Dow Jones U.S. Technology Supersector Index as of the market close on September 25, 2015. Note that past stock price performance is not necessarily indicative of future stock price performance.



* $100 invested on September 25, 2015 in stock or index, including reinvestment of dividends. Data points are the last day of each fiscal year for the Company's common stock and September 30th for indexes.

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	September 2015	September 2016	September 2017	September 2018	September 2019	September 2020
Apple Inc.	$ 100	$ 100	$ 140	$ 208	$ 204	$ 424
S&P 500 Index	$ 100	$ 115	$ 137	$ 161	$ 168	$ 194
S&P Information Technology Index	$ 100	$ 123	$ 158	$ 208	$ 226	$ 333
Dow Jones U.S. Technology Supersector Index	$ 100	$ 122	$ 156	$ 205	$ 218	$ 325

Item 6. Selected Financial Data

The information set forth below for the five years ended September 26, 2020, is not necessarily indicative of results of future operations, and should be read in conjunction with Part II, Item 7, “Management’s Discussion and Analysis of Financial Condition and Results of Operations” and the consolidated financial statements and accompanying notes included in Part II, Item 8 of this Form 10-K to fully understand factors that may affect the comparability of the information presented below (in millions, except number of shares, which are reflected in thousands, and per share amounts).

	2020	2019	2018	2017	2016
Total net sales	$ 274,515	$ 260,174	$ 265,595	$ 229,234	$ 215,639
Net income	$ 57,411	$ 55,256	$ 59,531	$ 48,351	$ 45,687
Earnings per share:					
Basic	$ 3.31	$ 2.99	$ 3.00	$ 2.32	$ 2.09
Diluted	$ 3.28	$ 2.97	$ 2.98	$ 2.30	$ 2.08
Cash dividends declared per share	$ 0.795	$ 0.75	$ 0.68	$ 0.60	$ 0.545
Shares used in computing earnings per share:					
Basic	17,352,119	18,471,336	19,821,510	20,868,968	21,883,281
Diluted	17,528,214	18,595,651	20,000,435	21,006,767	22,001,126
Total cash, cash equivalents and marketable securities	$ 191,830	$ 205,898	$ 237,100	$ 268,895	$ 237,585
Total assets	$ 323,888	$ 338,516	$ 365,725	$ 375,319	$ 321,686
Non-current portion of term debt	$ 98,667	$ 91,807	$ 93,735	$ 97,207	$ 75,427
Other non-current liabilities	$ 54,490	$ 50,503	$ 48,914	$ 44,212	$ 39,986

Item 7. Management's Discussion and Analysis of Financial Condition and Results of Operations

The following discussion should be read in conjunction with the consolidated financial statements and accompanying notes included in Part II, Item 8 of this Form 10-K. This section of this Form 10-K generally discusses 2020 and 2019 items and year-to-year comparisons between 2020 and 2019. Discussions of 2018 items and year-to-year comparisons between 2019 and 2018 that are not included in this Form 10-K can be found in "Management's Discussion and Analysis of Financial Condition and Results of Operations" in Part II, Item 7 of the Company's Annual Report on Form 10-K for the fiscal year ended September 28, 2019.

Fiscal Year Highlights

COVID-19 Update

COVID-19 has spread rapidly throughout the world, prompting governments and businesses to take unprecedented measures in response. Such measures have included restrictions on travel and business operations, temporary closures of businesses, and quarantines and shelter-in-place orders. The COVID-19 pandemic has significantly curtailed global economic activity and caused significant volatility and disruption in global financial markets. The COVID-19 pandemic and the measures taken by many countries in response have adversely affected and could in the future materially adversely impact the Company's business, results of operations, financial condition and stock price.

During 2020, aspects of the Company's business were adversely affected by the COVID-19 pandemic, with many of the Company's retail stores, as well as channel partner points of sale, temporarily closed at various times, and the vast majority of the Company's employees working remotely. The Company has reopened some of its offices and the majority of its retail stores, subject to operating restrictions to protect public health and the health and safety of employees and customers, and it continues to work on safely re-opening the remainder of its offices and retail stores, subject to local rules and regulations.

The full extent of the future impact of the COVID-19 pandemic on the Company's operational and financial performance is currently uncertain and will depend on many factors outside the Company's control, including, without limitation, the timing, extent, trajectory and duration of the pandemic, the development and availability of effective treatments and vaccines, the imposition of protective public safety measures, and the impact of the pandemic on the global economy and demand for consumer products. Refer to Part I, Item 1A of this Form 10-K under the heading "Risk Factors," for more information.

The Company believes its existing balances of cash, cash equivalents and marketable securities, along with commercial paper and other short-term liquidity arrangements, will be sufficient to satisfy its working capital needs, capital asset purchases, dividends, share repurchases, debt repayments and other liquidity requirements associated with its existing operations.

Fiscal 2020 Highlights

Total net sales increased 6% or $14.3 billion during 2020 compared to 2019, primarily driven by higher net sales of Services and Wearables, Home and Accessories. The weakness in foreign currencies had an unfavorable impact on net sales during 2020.

In April 2020, the Company announced an increase to its current share repurchase program authorization from $175 billion to $225 billion and raised its quarterly dividend from $0.1925 to $0.205 per share beginning in May 2020. During 2020, the Company repurchased $72.5 billion of its common stock and paid dividends and dividend equivalents of $14.1 billion.

On August 28, 2020, the Company effected a four-for-one stock split to shareholders of record as of August 24, 2020. All share, RSU and per share or per RSU information has been retroactively adjusted to reflect the stock split.

Products and Services Performance

The following table shows net sales by category for 2020, 2019 and 2018 (dollars in millions):

	2020	Change	2019	Change	2018
Net sales by category:					
iPhone [1]	$ 137,781	(3) %	$ 142,381	(14) %	$ 164,888
Mac [1]	28,622	11 %	25,740	2 %	25,198
iPad [1]	23,724	11 %	21,280	16 %	18,380
Wearables, Home and Accessories [1][2]	30,620	25 %	24,482	41 %	17,381
Services [3]	53,768	16 %	46,291	16 %	39,748
Total net sales	$ 274,515	6 %	$ 260,174	(2) %	$ 265,595

(1) Products net sales include amortization of the deferred value of unspecified software upgrade rights, which are bundled in the sales price of the respective product.

(2) Wearables, Home and Accessories net sales include sales of AirPods, Apple TV, Apple Watch, Beats products, HomePod, iPod touch and Apple-branded and third-party accessories.

(3) Services net sales include sales from the Company's advertising, AppleCare, digital content and other services. Services net sales also include amortization of the deferred value of Maps, Siri, and free iCloud® storage and Apple TV+ services, which are bundled in the sales price of certain products.

iPhone

iPhone net sales decreased during 2020 compared to 2019 due primarily to the absence of new iPhone models in the fourth quarter of 2020 and the weakness in foreign currencies relative to the U.S. dollar, partially offset by the introduction of iPhone SE in the third quarter of 2020.

Mac

Mac net sales increased during 2020 compared to 2019 due primarily to higher net sales of MacBook Pro.

iPad

iPad net sales increased during 2020 compared to 2019 due primarily to higher net sales of 10-inch versions of iPad, iPad Air and iPad Pro.

Wearables, Home and Accessories

Wearables, Home and Accessories net sales increased during 2020 compared to 2019 due primarily to higher net sales of AirPods and Apple Watch.

Services

Services net sales increased during 2020 compared to 2019 due primarily to higher net sales from the App Store, advertising and cloud services.

Segment Operating Performance

The Company manages its business primarily on a geographic basis. The Company's reportable segments consist of the Americas, Europe, Greater China, Japan and Rest of Asia Pacific. Americas includes both North and South America. Europe includes European countries, as well as India, the Middle East and Africa. Greater China includes China mainland, Hong Kong and Taiwan. Rest of Asia Pacific includes Australia and those Asian countries not included in the Company's other reportable segments. Although the reportable segments provide similar hardware and software products and similar services, each one is managed separately to better align with the location of the Company's customers and distribution partners and the unique market dynamics of each geographic region. Further information regarding the Company's reportable segments can be found in Part II, Item 8 of this Form 10-K in the Notes to Consolidated Financial Statements in Note 11, "Segment Information and Geographic Data."

The following table shows net sales by reportable segment for 2020, 2019 and 2018 (dollars in millions):

	2020	Change	2019	Change	2018
Net sales by reportable segment:					
Americas	$ 124,556	7 %	$ 116,914	4 %	$ 112,093
Europe	68,640	14 %	60,288	(3) %	62,420
Greater China	40,308	(8) %	43,678	(16) %	51,942
Japan	21,418	— %	21,506	(1) %	21,733
Rest of Asia Pacific	19,593	10 %	17,788	2 %	17,407
Total net sales	$ 274,515	6 %	$ 260,174	(2) %	$ 265,595

Americas

Americas net sales increased during 2020 compared to 2019 due primarily to higher net sales of Services and Wearables, Home and Accessories. The weakness in foreign currencies relative to the U.S. dollar had an unfavorable impact on Americas net sales during 2020.

Europe

Europe net sales increased during 2020 compared to 2019 due primarily to higher net sales of iPhone, Wearables, Home and Accessories and Services. The weakness in foreign currencies relative to the U.S. dollar had an unfavorable impact on Europe net sales during 2020.

Greater China

Greater China net sales decreased during 2020 compared to 2019 due primarily to lower net sales of iPhone, partially offset by higher net sales of Services and iPad. The weakness in foreign currencies relative to the U.S. dollar had an unfavorable impact on Greater China net sales during 2020.

Japan

Japan net sales were flat during 2020 compared to 2019 due primarily to lower net sales of iPhone, offset by higher net sales of Services and Wearables, Home and Accessories. The strength of the Japanese yen relative to the U.S. dollar had a favorable impact on Japan net sales during 2020.

Rest of Asia Pacific

Rest of Asia Pacific net sales increased during 2020 compared to 2019 due primarily to higher net sales of Wearables, Home and Accessories, Services and iPhone. The weakness in foreign currencies relative to the U.S. dollar had an unfavorable impact on Rest of Asia Pacific net sales during 2020.

Gross Margin

Products and Services gross margin and gross margin percentage for 2020, 2019 and 2018 were as follows (dollars in millions):

	2020	2019	2018
Gross margin:			
Products	$ 69,461	$ 68,887	$ 77,683
Services	35,495	29,505	24,156
Total gross margin	$ 104,956	$ 98,392	$ 101,839
Gross margin percentage:			
Products	31.5 %	32.2 %	34.4 %
Services	66.0 %	63.7 %	60.8 %
Total gross margin percentage	38.2 %	37.8 %	38.3 %

Products Gross Margin

Products gross margin increased during 2020 compared to 2019 due primarily to higher Products volume and material cost savings, partially offset by the weakness in foreign currencies relative to the U.S. dollar and a different Products mix. Products gross margin percentage decreased during 2020 compared to 2019 due primarily to the weakness in foreign currencies relative to the U.S. dollar and a different Products mix, partially offset by material cost savings and higher leverage.

Services Gross Margin

Services gross margin increased during 2020 compared to 2019 due primarily to higher Services net sales and a different Services mix. Services gross margin percentage increased during 2020 compared to 2019 due primarily to a different Services mix and higher leverage, partially offset by higher Services costs.

The Company's future gross margins can be impacted by a variety of factors, as set forth in Part I, Item 1A of this Form 10-K under the heading "Risk Factors." As a result, the Company believes, in general, gross margins will be subject to volatility and remain under downward pressure.

Operating Expenses

Operating expenses for 2020, 2019 and 2018 were as follows (dollars in millions):

	2020	Change	2019	Change	2018
Research and development	$ 18,752	16 %	$ 16,217	14 %	$ 14,236
Percentage of total net sales	7 %		6 %		5 %
Selling, general and administrative	$ 19,916	9 %	$ 18,245	9 %	$ 16,705
Percentage of total net sales	7 %		7 %		6 %
Total operating expenses	$ 38,668	12 %	$ 34,462	11 %	$ 30,941
Percentage of total net sales	14 %		13 %		12 %

Research and Development

The year-over-year growth in R&D expense in 2020 was driven primarily by increases in headcount-related expenses. The Company continues to believe that focused investments in R&D are critical to its future growth and competitive position in the marketplace, and to the development of new and updated products and services that are central to the Company's core business strategy.

Selling, General and Administrative

The year-over-year growth in selling, general and administrative expense in 2020 was driven primarily by increases in headcount-related expenses, higher spending on marketing and advertising, and higher variable selling expenses.

Other Income/(Expense), Net

Other income/(expense), net ("OI&E") for 2020, 2019 and 2018 was as follows (dollars in millions):

	2020	Change	2019	Change	2018
Interest and dividend income	$ 3,763		$ 4,961		$ 5,686
Interest expense	(2,873)		(3,576)		(3,240)
Other income/(expense), net	(87)		422		(441)
Total other income/(expense), net	$ 803	(56) %	$ 1,807	(10) %	$ 2,005

The year-over-year decrease in OI&E during 2020 was due primarily to lower interest income and net impairment/gain activity on non-marketable securities, partially offset by lower interest expense. The weighted-average interest rate earned by the Company on its cash, cash equivalents and marketable securities was 1.85% and 2.19% in 2020 and 2019, respectively.

Provision for Income Taxes

Provision for income taxes, effective tax rate and statutory federal income tax rate for 2020, 2019 and 2018 were as follows (dollars in millions):

	2020	2019	2018
Provision for income taxes	$ 9,680	$ 10,481	$ 13,372
Effective tax rate	14.4 %	15.9 %	18.3 %
Statutory federal income tax rate	21 %	21 %	24.5 %

The Company's effective tax rate for both 2020 and 2019 was lower than the statutory federal income tax rate due primarily to the lower tax rate on foreign earnings, including the impact of tax settlements, and tax benefits from share-based compensation.

The Company's effective tax rate for 2020 was lower compared to 2019 due primarily to a one-time adjustment of U.S. foreign tax credits in response to regulations issued by the U.S. Department of the Treasury in December 2019 in connection with the U.S. Tax Cuts and Jobs Act of 2017 (the "Act") and higher tax benefits from share-based compensation.

As of September 26, 2020, the Company had net deferred tax assets arising from deductible temporary differences and tax credits of $11.0 billion and deferred tax liabilities of $2.8 billion. Management believes it is more likely than not that forecasted income, including income that may be generated as a result of certain tax planning strategies, together with future reversals of existing taxable temporary differences, will be sufficient to recover the net deferred tax assets. The Company will continue to evaluate the amount of the valuation allowance, if any, by assessing the realizability of deferred tax assets.

Recent Accounting Pronouncements

Financial Instruments

In June 2016, the Financial Accounting Standards Board issued Accounting Standards Update No. 2016-13, *Financial Instruments – Credit Losses (Topic 326): Measurement of Credit Losses on Financial Instruments* ("ASU 2016-13"), which modifies the measurement of expected credit losses on certain financial instruments. The Company will adopt ASU 2016-13 in its first quarter of 2021 utilizing the modified retrospective transition method. Based on the composition of the Company's investment portfolio, current market conditions, and historical credit loss activity, the adoption of ASU 2016-13 will not have a material impact on its consolidated financial statements.

Liquidity and Capital Resources

The following table presents selected financial information and statistics as of and for the years ended September 26, 2020, September 28, 2019 and September 29, 2018 (in millions):

	2020	2019	2018
Cash, cash equivalents and marketable securities [1]	$ 191,830	$ 205,898	$ 237,100
Property, plant and equipment, net	$ 36,766	$ 37,378	$ 41,304
Commercial paper	$ 4,996	$ 5,980	$ 11,964
Total term debt	$ 107,440	$ 102,067	$ 102,519
Working capital	$ 38,321	$ 57,101	$ 15,410
Cash generated by operating activities	$ 80,674	$ 69,391	$ 77,434
Cash generated by/(used in) investing activities	$ (4,289)	$ 45,896	$ 16,066
Cash used in financing activities	$ (86,820)	$ (90,976)	$ (87,876)

(1) As of September 26, 2020 and September 28, 2019, total marketable securities included $18.6 billion and $18.9 billion, respectively, that was restricted from general use, related to the State Aid Decision (refer to Note 5, “Income Taxes” in the Notes to Consolidated Financial Statements in Part II, Item 8 of this Form 10-K) and other agreements.

The Company believes its existing balances of cash, cash equivalents and marketable securities, along with commercial paper and other short-term liquidity arrangements, will be sufficient to satisfy its working capital needs, capital asset purchases, dividends, share repurchases, debt repayments and other liquidity requirements associated with its existing operations over the next 12 months.

In connection with the State Aid Decision, as of September 26, 2020, the adjusted recovery amount of €12.9 billion plus interest of €1.2 billion was funded into escrow, where it will remain restricted from general use pending the conclusion of all legal proceedings. Further information regarding the State Aid Decision can be found in Part II, Item 8 of this Form 10-K in the Notes to Consolidated Financial Statements in Note 5, “Income Taxes.”

The Company’s marketable securities investment portfolio is primarily invested in highly rated securities, with the primary objective of minimizing the potential risk of principal loss. The Company’s investment policy generally requires securities to be investment grade and limits the amount of credit exposure to any one issuer.

During 2020, cash generated by operating activities of $80.7 billion was a result of $57.4 billion of net income, non-cash adjustments to net income of $17.6 billion and an increase in the net change in operating assets and liabilities of $5.7 billion. Cash used in investing activities of $4.3 billion during 2020 consisted primarily of cash used to acquire property, plant and equipment of $7.3 billion and cash paid for business acquisitions, net of cash acquired, of $1.5 billion, partially offset by proceeds from maturities and sales of marketable securities, net of purchases, of $5.5 billion. Cash used in financing activities of $86.8 billion during 2020 consisted primarily of cash used to repurchase common stock of $72.4 billion, cash used to pay dividends and dividend equivalents of $14.1 billion, cash used to repay or redeem term debt of $12.6 billion and net repayments of commercial paper of $1.0 billion, partially offset by net proceeds from the issuance of term debt of $16.1 billion.

During 2019, cash generated by operating activities of $69.4 billion was a result of $55.3 billion of net income and non-cash adjustments to net income of $17.6 billion, partially offset by a decrease in the net change in operating assets and liabilities of $3.5 billion. Cash generated by investing activities of $45.9 billion during 2019 consisted primarily of proceeds from sales and maturities of marketable securities, net of purchases, of $57.5 billion, partially offset by cash used to acquire property, plant and equipment of $10.5 billion. Cash used in financing activities of $91.0 billion during 2019 consisted primarily of cash used to repurchase common stock of $66.9 billion, cash used to pay dividends and dividend equivalents of $14.1 billion, cash used to repay term debt of $8.8 billion and net repayments of commercial paper of $6.0 billion, partially offset by net proceeds from the issuance of term debt of $7.0 billion.

Debt

The Company issues unsecured short-term promissory notes (“Commercial Paper”) pursuant to a commercial paper program. The Company uses the net proceeds from the commercial paper program for general corporate purposes, including dividends and share repurchases. As of September 26, 2020, the Company had $5.0 billion of Commercial Paper outstanding, with a weighted-average interest rate of 0.62% and maturities generally less than nine months.

The Company may enter into agreements to sell certain of its marketable securities with a promise to repurchase the securities at a specified time and amount as an additional short-term liquidity arrangement.

As of September 26, 2020, the Company had outstanding floating- and fixed-rate notes with varying maturities for an aggregate principal amount of $106.1 billion (collectively the "Notes"). During 2020, the Company issued $16.1 billion and repaid or redeemed $12.6 billion of Notes. The Company has entered, and in the future may enter, into interest rate swaps to manage interest rate risk on the Notes. In addition, the Company has entered, and in the future may enter, into foreign currency swaps to manage foreign currency risk on the Notes.

Further information regarding the Company's debt issuances and related hedging activity can be found in Part II, Item 8 of this Form 10-K in the Notes to Consolidated Financial Statements in Note 3, "Financial Instruments" and Note 6, "Debt."

Capital Return Program

As of September 26, 2020, the Company was authorized to purchase up to $225 billion of the Company's common stock under a share repurchase program, of which $168.6 billion had been utilized. During 2020, the Company repurchased 917 million shares of its common stock for $72.5 billion, including 141 million shares delivered under a $10.0 billion November 2019 ASR and 64 million shares delivered under a $6.0 billion May 2020 ASR. The Company's share repurchase program does not obligate it to acquire any specific number of shares. Under this program, shares may be repurchased in privately negotiated and/or open market transactions, including under plans complying with Rule 10b5-1 under the Exchange Act.

As of September 26, 2020, the Company's quarterly cash dividend was $0.205 per share. The Company intends to increase its dividend on an annual basis, subject to declaration by the Board of Directors.

Contractual Obligations

The following table presents certain payments due by the Company as of September 26, 2020, and includes amounts already recorded on the Consolidated Balance Sheet, except for manufacturing purchase obligations, other purchase obligations and certain lease obligations (in millions):

	Payments due in 2021	Payments due in 2022–2023	Payments due in 2024–2025	Payments due after 2025	Total
Term debt	$ 8,750	$ 20,958	$ 21,029	$ 55,341	$ 106,078
Leases	1,622	3,097	2,352	5,888	12,959
Manufacturing purchase obligations [1]	47,961	1,849	61	40	49,911
Other purchase obligations	6,178	2,736	400	90	9,404
Deemed repatriation tax payable	1,533	5,923	12,955	9,254	29,665
Total	$ 66,044	$ 34,563	$ 36,797	$ 70,613	$ 208,017

(1) Represents amount expected to be paid under manufacturing-related supplier arrangements, which are primarily noncancelable.

Leases

The Company has lease arrangements for certain equipment and facilities, including retail, corporate, manufacturing and data center space. The Company's retail store and other facility leases typically have original terms not exceeding 10 years and generally contain multi-year renewal options. The above contractual obligations table includes future payments under leases that had commenced as of September 26, 2020, and were therefore recorded on the Company's Consolidated Balance Sheet, as well as leases that had been signed but not yet commenced as of September 26, 2020. Further information regarding the Company's leases can be found in Part II, Item 8 of this Form 10-K in the Notes to Consolidated Financial Statements in Note 12, "Leases."

Manufacturing Purchase Obligations

The Company utilizes several outsourcing partners to manufacture sub-assemblies for the Company's products and to perform final assembly and testing of finished products. These outsourcing partners acquire components and build product based on demand information supplied by the Company, which typically covers periods up to 150 days. The Company also obtains individual components for its products from a wide variety of individual suppliers.

Other Purchase Obligations

The Company's other purchase obligations consist of noncancelable obligations to acquire capital assets, including product tooling and manufacturing process equipment, and noncancelable obligations related to advertising, licensing, R&D, Internet and telecommunications services, content creation and other activities.

Deemed Repatriation Tax Payable

As of September 26, 2020, a significant portion of the other non-current liabilities in the Company's Consolidated Balance Sheet consisted of the deemed repatriation tax payable imposed by the Act. The Company plans to pay the deemed repatriation tax payable in installments in accordance with the Act.

Other Non-Current Liabilities

The Company's remaining other non-current liabilities primarily consist of items for which the Company is unable to make a reasonably reliable estimate of the timing or amount of payments; therefore, such amounts are not included in the above contractual obligations table.

Critical Accounting Policies and Estimates

The preparation of financial statements and related disclosures in conformity with U.S. generally accepted accounting principles ("GAAP") and the Company's discussion and analysis of its financial condition and operating results require the Company's management to make judgments, assumptions and estimates that affect the amounts reported. Note 1, "Summary of Significant Accounting Policies," of the Notes to Consolidated Financial Statements in Part II, Item 8 of this Form 10-K describes the significant accounting policies and methods used in the preparation of the Company's consolidated financial statements. Management bases its estimates on historical experience and on various other assumptions it believes to be reasonable under the circumstances, the results of which form the basis for making judgments about the carrying values of assets and liabilities. Actual results may differ from these estimates, and such differences may be material.

Management believes the Company's critical accounting policies and estimates are those related to revenue recognition, valuation of manufacturing-related assets and estimation of inventory purchase commitment cancellation fees, warranty costs, income taxes, and legal and other contingencies. Management considers these policies critical because they are both important to the portrayal of the Company's financial condition and operating results, and they require management to make judgments and estimates about inherently uncertain matters. The Company's senior management has reviewed these critical accounting policies and related disclosures with the Audit and Finance Committee of the Company's Board of Directors.

Revenue Recognition

The Company has identified up to three performance obligations regularly included in arrangements involving the sale of iPhone, Mac, iPad and certain other products. The first performance obligation, which represents the substantial portion of the allocated sales price, is the hardware and bundled software delivered at the time of sale. The second performance obligation is the right to receive certain product-related bundled services, which include iCloud, Siri and Maps. The third performance obligation is the right to receive, on a when-and-if-available basis, future unspecified software upgrades relating to the software bundled with each device. The Company allocates revenue and any related discounts to these performance obligations based on their relative stand-alone selling prices ("SSPs"). Because the Company lacks observable prices for the undelivered performance obligations, the allocation of revenue is based on the Company's estimated SSPs. Revenue allocated to the product-related bundled services and unspecified software upgrade rights is deferred and recognized on a straight-line basis over the estimated period they are expected to be provided.

The Company's process for determining estimated SSPs involves management's judgment and considers multiple factors that may vary over time depending upon the unique facts and circumstances related to each deliverable. Should future facts and circumstances change, the Company's SSPs and the future rate of related amortization for product-related bundled services and unspecified software upgrade rights related to future sales of these devices could change. Factors subject to change include the nature of the product-related bundled services and unspecified software upgrade rights offered, their estimated value and the estimated period they are expected to be provided.

Valuation of Manufacturing-Related Assets and Estimation of Inventory Purchase Commitment Cancellation Fees

The Company invests in manufacturing-related assets, including capital assets held at its suppliers' facilities and prepayments provided to certain of its suppliers associated with long-term agreements to secure the supply of inventory. The Company also accrues estimated purchase commitment cancellation fees related to inventory orders that have been canceled or are expected to be canceled. The Company's estimates of future product development plans and demand for its products are key inputs in determining the recoverability of manufacturing-related assets and assessing the adequacy of any purchase commitment cancellation fee accruals. If there is an abrupt and substantial decline in estimated demand for one or more of the Company's products, a change in the Company's product development plans, or an unanticipated change in technological requirements for any of the Company's products, the Company may be required to record write-downs or impairments of manufacturing-related assets or accrue purchase commitment cancellation fees.

Warranty Costs

The Company offers limited warranties on its new and certified refurbished hardware products and on parts used to repair its hardware products, and customers may purchase extended service coverage, where available, on many of the Company's hardware products. The Company accrues the estimated cost of warranties in the period the related revenue is recognized based on historical and projected warranty claim rates, historical and projected cost per claim and knowledge of specific product failures outside the Company's typical experience. If actual product failure rates or repair costs differ from estimates, revisions to the estimated warranty liabilities would be required.

Income Taxes

The Company recognizes tax benefits from uncertain tax positions if it is more likely than not that the tax position will be sustained on examination by the taxing authorities, based on the technical merits of the position. The tax benefits recognized in the financial statements from such positions are measured based on the largest benefit that has a greater-than-50% likelihood of being realized upon ultimate settlement. The calculation of tax liabilities involves significant judgment in estimating the impact of uncertainties in the application of GAAP and complex tax laws. Resolution of these uncertainties in a manner inconsistent with management's expectations could have a material impact on the Company's financial condition and operating results.

Legal and Other Contingencies

As discussed in Part I, Item 3 of this Form 10-K under the heading "Legal Proceedings" and in Part II, Item 8 of this Form 10-K in the Notes to Consolidated Financial Statements in Note 10, "Commitments and Contingencies," the Company is subject to various legal proceedings and claims that arise in the ordinary course of business. The Company records a liability when it is probable that a loss has been incurred and the amount is reasonably estimable, the determination of which requires significant judgment. Except as described in Part II, Item 8 of this Form 10-K in the Notes to Consolidated Financial Statements in Note 10, "Commitments and Contingencies" under the heading "Contingencies," in the opinion of management, there was not at least a reasonable possibility the Company may have incurred a material loss, or a material loss greater than a recorded accrual, concerning loss contingencies for asserted legal and other claims.

The outcome of litigation is inherently uncertain. If one or more legal matters were resolved against the Company in a reporting period for amounts above management's expectations, the Company's financial condition and operating results for that reporting period could be materially adversely affected.

Item 7A. Quantitative and Qualitative Disclosures About Market Risk

Interest Rate and Foreign Currency Risk Management

The Company regularly reviews its foreign exchange forward and option positions and interest rate swaps, both on a stand-alone basis and in conjunction with its underlying foreign currency and interest rate exposures. Given the effective horizons of the Company's risk management activities and the anticipatory nature of the exposures, there can be no assurance these positions will offset more than a portion of the financial impact resulting from movements in either foreign exchange or interest rates. Further, the recognition of the gains and losses related to these instruments may not coincide with the timing of gains and losses related to the underlying economic exposures and, therefore, may adversely affect the Company's financial condition and operating results.

Interest Rate Risk

The Company's exposure to changes in interest rates relates primarily to the Company's investment portfolio and outstanding debt. While the Company is exposed to global interest rate fluctuations, the Company's interest income and expense are most sensitive to fluctuations in U.S. interest rates. Changes in U.S. interest rates affect the interest earned on the Company's cash, cash equivalents and marketable securities and the fair value of those securities, as well as costs associated with hedging and interest paid on the Company's debt.

The Company's investment policy and strategy are focused on the preservation of capital and supporting the Company's liquidity requirements. The Company uses a combination of internal and external management to execute its investment strategy and achieve its investment objectives. The Company typically invests in highly rated securities, with the primary objective of minimizing the potential risk of principal loss. The Company's investment policy generally requires securities to be investment grade and limits the amount of credit exposure to any one issuer. To provide a meaningful assessment of the interest rate risk associated with the Company's investment portfolio, the Company performed a sensitivity analysis to determine the impact a change in interest rates would have on the value of the investment portfolio assuming a 100 basis point parallel shift in the yield curve. Based on investment positions as of September 26, 2020 and September 28, 2019, a hypothetical 100 basis point increase in interest rates across all maturities would result in a $3.1 billion and $2.8 billion incremental decline in the fair market value of the portfolio, respectively. Such losses would only be realized if the Company sold the investments prior to maturity.

As of September 26, 2020 and September 28, 2019, the Company had outstanding floating- and fixed-rate notes with varying maturities for an aggregate carrying amount of $107.4 billion and $102.1 billion, respectively. The Company has entered, and in the future may enter, into interest rate swaps to manage interest rate risk on its outstanding term debt. Interest rate swaps allow the Company to effectively convert fixed-rate payments into floating-rate payments or floating-rate payments into fixed-rate payments. Gains and losses on term debt are generally offset by the corresponding losses and gains on the related hedging instrument. A 100 basis point increase in market interest rates would cause interest expense on the Company's debt as of September 26, 2020 and September 28, 2019 to increase by $218 million and $325 million on an annualized basis, respectively.

Foreign Currency Risk

In general, the Company is a net receiver of currencies other than the U.S. dollar. Accordingly, changes in exchange rates, and in particular a strengthening of the U.S. dollar, will negatively affect the Company's net sales and gross margins as expressed in U.S. dollars. There is a risk that the Company will have to adjust local currency pricing due to competitive pressures when there has been significant volatility in foreign currency exchange rates.

The Company may enter into foreign currency forward and option contracts with financial institutions to protect against foreign exchange risks associated with certain existing assets and liabilities, certain firmly committed transactions, forecasted future cash flows and net investments in foreign subsidiaries. In addition, the Company has entered, and in the future may enter, into foreign currency contracts to partially offset the foreign currency exchange gains and losses on its foreign currency–denominated debt issuances. The Company generally hedges portions of its forecasted foreign currency exposure associated with revenue and inventory purchases, typically for up to 12 months. However, the Company may choose not to hedge certain foreign exchange exposures for a variety of reasons including, but not limited to, accounting considerations or the prohibitive economic cost of hedging particular exposures.

To provide an assessment of the foreign currency risk associated with certain of the Company's foreign currency derivative positions, the Company performed a sensitivity analysis using a value-at-risk ("VAR") model to assess the potential impact of fluctuations in exchange rates. The VAR model consisted of using a Monte Carlo simulation to generate thousands of random market price paths assuming normal market conditions. The VAR is the maximum expected loss in fair value, for a given confidence interval, to the Company's foreign currency derivative positions due to adverse movements in rates. The VAR model is not intended to represent actual losses but is used as a risk estimation and management tool. Forecasted transactions, firm commitments and assets and liabilities denominated in foreign currencies were excluded from the model. Based on the results of the model, the Company estimates with 95% confidence, a maximum one-day loss in fair value of $551 million as of September 26, 2020, compared to a maximum one-day loss in fair value of $452 million as of September 28, 2019. Because the Company uses foreign currency instruments for hedging purposes, the losses in fair value incurred on those instruments are generally offset by increases in the fair value of the underlying exposures.

Actual future gains and losses associated with the Company's investment portfolio, debt and derivative positions may differ materially from the sensitivity analyses performed as of September 26, 2020 due to the inherent limitations associated with predicting the timing and amount of changes in interest rates, foreign currency exchange rates and the Company's actual exposures and positions.

Item 8. Financial Statements and Supplementary Data

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All financial statement schedules have been omitted, since the required information is not applicable or is not present in amounts sufficient to require submission of the schedule, or because the information required is included in the consolidated financial statements and accompanying notes.

COEX-
8.36

Apple Inc.

CONSOLIDATED STATEMENTS OF OPERATIONS
(In millions, except number of shares which are reflected in thousands and per share amounts)

	Years ended		
	September 26, 2020	September 28, 2019	September 29, 2018
Net sales:			
Products	$ 220,747	$ 213,883	$ 225,847
Services	53,768	46,291	39,748
Total net sales	274,515	260,174	265,595
Cost of sales:			
Products	151,286	144,996	148,164
Services	18,273	16,786	15,592
Total cost of sales	169,559	161,782	163,756
Gross margin	104,956	98,392	101,839
Operating expenses:			
Research and development	18,752	16,217	14,236
Selling, general and administrative	19,916	18,245	16,705
Total operating expenses	38,668	34,462	30,941
Operating income	66,288	63,930	70,898
Other income/(expense), net	803	1,807	2,005
Income before provision for income taxes	67,091	65,737	72,903
Provision for income taxes	9,680	10,481	13,372
Net income	$ 57,411	$ 55,256	$ 59,531
Earnings per share:			
Basic	$ 3.31	$ 2.99	$ 3.00
Diluted	$ 3.28	$ 2.97	$ 2.98
Shares used in computing earnings per share:			
Basic	17,352,119	18,471,336	19,821,510
Diluted	17,528,214	18,595,651	20,000,435

See accompanying Notes to Consolidated Financial Statements.

COEX-
8.36

Apple Inc.

CONSOLIDATED STATEMENTS OF COMPREHENSIVE INCOME
(In millions)

	Years ended		
	September 26, 2020	September 28, 2019	September 29, 2018
Net income	$ 57,411	$ 55,256	$ 59,531
Other comprehensive income/(loss):			
Change in foreign currency translation, net of tax	88	(408)	(525)
Change in unrealized gains/losses on derivative instruments, net of tax:			
Change in fair value of derivatives	79	(661)	523
Adjustment for net (gains)/losses realized and included in net income	(1,264)	23	382
Total change in unrealized gains/losses on derivative instruments	(1,185)	(638)	905
Change in unrealized gains/losses on marketable debt securities, net of tax:			
Change in fair value of marketable debt securities	1,202	3,802	(3,407)
Adjustment for net (gains)/losses realized and included in net income	(63)	25	1
Total change in unrealized gains/losses on marketable debt securities	1,139	3,827	(3,406)
Total other comprehensive income/(loss)	42	2,781	(3,026)
Total comprehensive income	$ 57,453	$ 58,037	$ 56,505

See accompanying Notes to Consolidated Financial Statements.

Apple Inc.

CONSOLIDATED BALANCE SHEETS
(In millions, except number of shares which are reflected in thousands and par value)

	September 26, 2020	September 28, 2019
ASSETS:		
Current assets:		
Cash and cash equivalents	$ 38,016	$ 48,844
Marketable securities	52,927	51,713
Accounts receivable, net	16,120	22,926
Inventories	4,061	4,106
Vendor non-trade receivables	21,325	22,878
Other current assets	11,264	12,352
Total current assets	143,713	162,819
Non-current assets:		
Marketable securities	100,887	105,341
Property, plant and equipment, net	36,766	37,378
Other non-current assets	42,522	32,978
Total non-current assets	180,175	175,697
Total assets	$ 323,888	$ 338,516
LIABILITIES AND SHAREHOLDERS' EQUITY:		
Current liabilities:		
Accounts payable	$ 42,296	$ 46,236
Other current liabilities	42,684	37,720
Deferred revenue	6,643	5,522
Commercial paper	4,996	5,980
Term debt	8,773	10,260
Total current liabilities	105,392	105,718
Non-current liabilities:		
Term debt	98,667	91,807
Other non-current liabilities	54,490	50,503
Total non-current liabilities	153,157	142,310
Total liabilities	258,549	248,028
Commitments and contingencies		
Shareholders' equity:		
Common stock and additional paid-in capital, $0.00001 par value: 50,400,000 shares authorized; 16,976,763 and 17,772,945 shares issued and outstanding, respectively	50,779	45,174
Retained earnings	14,966	45,898
Accumulated other comprehensive income/(loss)	(406)	(584)
Total shareholders' equity	65,339	90,488
Total liabilities and shareholders' equity	$ 323,888	$ 338,516

See accompanying Notes to Consolidated Financial Statements.

Apple Inc.

CONSOLIDATED STATEMENTS OF SHAREHOLDERS' EQUITY
(In millions, except per share amounts)

	Years ended		
	September 26, 2020	September 28, 2019	September 29, 2018
Total shareholders' equity, beginning balances	$ 90,488	$ 107,147	$ 134,047
Common stock and additional paid-in capital:			
Beginning balances	45,174	40,201	35,867
Common stock issued	880	781	669
Common stock withheld related to net share settlement of equity awards	(2,250)	(2,002)	(1,778)
Share-based compensation	6,975	6,194	5,443
Ending balances	50,779	45,174	40,201
Retained earnings:			
Beginning balances	45,898	70,400	98,330
Net income	57,411	55,256	59,531
Dividends and dividend equivalents declared	(14,087)	(14,129)	(13,735)
Common stock withheld related to net share settlement of equity awards	(1,604)	(1,029)	(948)
Common stock repurchased	(72,516)	(67,101)	(73,056)
Cumulative effects of changes in accounting principles	(136)	2,501	278
Ending balances	14,966	45,898	70,400
Accumulated other comprehensive income/(loss):			
Beginning balances	(584)	(3,454)	(150)
Other comprehensive income/(loss)	42	2,781	(3,026)
Cumulative effects of changes in accounting principles	136	89	(278)
Ending balances	(406)	(584)	(3,454)
Total shareholders' equity, ending balances	$ 65,339	$ 90,488	$ 107,147
Dividends and dividend equivalents declared per share or RSU	$ 0.795	$ 0.75	$ 0.68

See accompanying Notes to Consolidated Financial Statements.

COEX-
8.36

Apple Inc.

CONSOLIDATED STATEMENTS OF CASH FLOWS
(In millions)

	Years ended		
	September 26, 2020	September 28, 2019	September 29, 2018
Cash, cash equivalents and restricted cash, beginning balances	$ 50,224	$ 25,913	$ 20,289
Operating activities:			
Net income	57,411	55,256	59,531
Adjustments to reconcile net income to cash generated by operating activities:			
Depreciation and amortization	11,056	12,547	10,903
Share-based compensation expense	6,829	6,068	5,340
Deferred income tax benefit	(215)	(340)	(32,590)
Other	(97)	(652)	(444)
Changes in operating assets and liabilities:			
Accounts receivable, net	6,917	245	(5,322)
Inventories	(127)	(289)	828
Vendor non-trade receivables	1,553	2,931	(8,010)
Other current and non-current assets	(9,588)	873	(423)
Accounts payable	(4,062)	(1,923)	9,175
Deferred revenue	2,081	(625)	(3)
Other current and non-current liabilities	8,916	(4,700)	38,449
Cash generated by operating activities	80,674	69,391	77,434
Investing activities:			
Purchases of marketable securities	(114,938)	(39,630)	(71,356)
Proceeds from maturities of marketable securities	69,918	40,102	55,881
Proceeds from sales of marketable securities	50,473	56,988	47,838
Payments for acquisition of property, plant and equipment	(7,309)	(10,495)	(13,313)
Payments made in connection with business acquisitions, net	(1,524)	(624)	(721)
Purchases of non-marketable securities	(210)	(1,001)	(1,871)
Proceeds from non-marketable securities	92	1,634	353
Other	(791)	(1,078)	(745)
Cash generated by/(used in) investing activities	(4,289)	45,896	16,066
Financing activities:			
Proceeds from issuance of common stock	880	781	669
Payments for taxes related to net share settlement of equity awards	(3,634)	(2,817)	(2,527)
Payments for dividends and dividend equivalents	(14,081)	(14,119)	(13,712)
Repurchases of common stock	(72,358)	(66,897)	(72,738)
Proceeds from issuance of term debt, net	16,091	6,963	6,969
Repayments of term debt	(12,629)	(8,805)	(6,500)
Repayments of commercial paper, net	(963)	(5,977)	(37)
Other	(126)	(105)	—
Cash used in financing activities	(86,820)	(90,976)	(87,876)
Increase/(Decrease) in cash, cash equivalents and restricted cash	(10,435)	24,311	5,624
Cash, cash equivalents and restricted cash, ending balances	$ 39,789	$ 50,224	$ 25,913
Supplemental cash flow disclosure:			
Cash paid for income taxes, net	$ 9,501	$ 15,263	$ 10,417
Cash paid for interest	$ 3,002	$ 3,423	$ 3,022

See accompanying Notes to Consolidated Financial Statements.

Apple Inc.

Notes to Consolidated Financial Statements

Note 1 – Summary of Significant Accounting Policies

Basis of Presentation and Preparation

The consolidated financial statements include the accounts of Apple Inc. and its wholly owned subsidiaries (collectively "Apple" or the "Company"). Intercompany accounts and transactions have been eliminated. In the opinion of the Company's management, the consolidated financial statements reflect all adjustments, which are normal and recurring in nature, necessary for fair financial statement presentation. The preparation of these consolidated financial statements and accompanying notes in conformity with U.S. generally accepted accounting principles requires management to make estimates and assumptions that affect the amounts reported. Actual results could differ materially from those estimates. Certain prior period amounts in the consolidated financial statements and accompanying notes have been reclassified to conform to the current period's presentation.

The Company's fiscal year is the 52- or 53-week period that ends on the last Saturday of September. The Company's fiscal years 2020, 2019 and 2018 spanned 52 weeks each. An additional week is included in the first fiscal quarter every five or six years to realign the Company's fiscal quarters with calendar quarters. Unless otherwise stated, references to particular years, quarters, months and periods refer to the Company's fiscal years ended in September and the associated quarters, months and periods of those fiscal years.

Common Stock Split

On August 28, 2020, the Company effected a four-for-one stock split to shareholders of record as of August 24, 2020. All share, restricted stock unit ("RSU") and per share or per RSU information has been retroactively adjusted to reflect the stock split.

Recently Adopted Accounting Pronouncements

Leases

At the beginning of the first quarter of 2020, the Company adopted the Financial Accounting Standards Board's (the "FASB") Accounting Standards Update ("ASU") No. 2016-02, *Leases (Topic 842)* ("ASU 2016-02"), and additional ASUs issued to clarify and update the guidance in ASU 2016-02 (collectively, the "new leases standard"), which modifies lease accounting for lessees to increase transparency and comparability by recording lease assets and liabilities for operating leases and disclosing key information about leasing arrangements. The Company adopted the new leases standard utilizing the modified retrospective transition method, under which amounts in prior periods presented were not restated. For contracts existing at the time of adoption, the Company elected to not reassess (i) whether any are or contain leases, (ii) lease classification, and (iii) initial direct costs. Upon adoption, the Company recorded $7.5 billion of right-of-use ("ROU") assets and $8.1 billion of lease liabilities on its Condensed Consolidated Balance Sheet.

Hedging

At the beginning of the first quarter of 2020, the Company adopted FASB ASU No. 2017-12, *Derivatives and Hedging (Topic 815): Targeted Improvements to Accounting for Hedging Activities* ("ASU 2017-12"). ASU 2017-12 expands component and fair value hedging, specifies the presentation of the effects of hedging instruments, eliminates the separate measurement and presentation of hedge ineffectiveness, and updates disclosure requirements related to hedging. The Company adopted ASU 2017-12 utilizing the modified retrospective transition method. Upon adoption, the Company recorded a $136 million increase in accumulated other comprehensive income/(loss) ("AOCI") and a corresponding decrease in retained earnings in the Condensed Consolidated Statement of Shareholders' Equity.

Advertising Costs

Advertising costs are expensed as incurred and included in selling, general and administrative expenses.

Share-Based Compensation

The Company generally measures share-based compensation based on the closing price of the Company's common stock on the date of grant, and recognizes expense on a straight-line basis for its estimate of equity awards that will ultimately vest. Further information regarding share-based compensation can be found in Note 9, "Benefit Plans."

Earnings Per Share

The following table shows the computation of basic and diluted earnings per share for 2020, 2019 and 2018 (net income in millions and shares in thousands):

	2020	2019	2018
Numerator:			
Net income	$ 57,411	$ 55,256	$ 59,531
Denominator:			
Weighted-average basic shares outstanding	17,352,119	18,471,336	19,821,510
Effect of dilutive securities	176,095	124,315	178,925
Weighted-average diluted shares	17,528,214	18,595,651	20,000,435
Basic earnings per share	$ 3.31	$ 2.99	$ 3.00
Diluted earnings per share	$ 3.28	$ 2.97	$ 2.98

The Company applies the treasury stock method to determine the dilutive effect of potentially dilutive securities. Potentially dilutive securities representing 62 million shares of common stock were excluded from the computation of diluted earnings per share for 2019 because their effect would have been antidilutive.

Cash Equivalents and Marketable Securities

All highly liquid investments with maturities of three months or less at the date of purchase are classified as cash equivalents.

The Company's investments in marketable debt securities have been classified and accounted for as available-for-sale. The Company classifies its marketable debt securities as either short-term or long-term based on each instrument's underlying contractual maturity date. Unrealized gains and losses on marketable debt securities classified as available-for-sale are recognized in other comprehensive income/(loss) ("OCI").

The Company's investments in marketable equity securities are classified based on the nature of the securities and their availability for use in current operations. The Company's marketable equity securities are measured at fair value with gains and losses recognized in other income/(expense), net ("OI&E").

The cost of securities sold is determined using the specific identification method.

Inventories

Inventories are measured using the first-in, first-out method.

Property, Plant and Equipment

Depreciation on property, plant and equipment is recognized on a straight-line basis over the estimated useful lives of the assets, which for buildings is the lesser of 40 years or the remaining life of the building; between one and five years for machinery and equipment, including product tooling and manufacturing process equipment; and the shorter of lease term or useful life for leasehold improvements. Capitalized costs related to internal-use software are amortized on a straight-line basis over the estimated useful lives of the assets, which range from three to seven years. Depreciation and amortization expense on property and equipment was $9.7 billion, $11.3 billion and $9.3 billion during 2020, 2019 and 2018, respectively.

Non-cash investing activities involving property, plant and equipment resulted in a net increase/(decrease) to accounts payable and other current liabilities of $(2.9) billion and $3.4 billion during 2019 and 2018, respectively.

Non-Marketable Securities

The Company has elected to apply the measurement alternative to equity securities without readily determinable fair values. As such, the Company's non-marketable equity securities are measured at cost, less any impairment, and are adjusted for changes in fair value resulting from observable transactions for identical or similar investments of the same issuer. Gains and losses on non-marketable equity securities are recognized in OI&E.

Restricted Cash and Restricted Marketable Securities

The Company considers cash and marketable securities to be restricted when withdrawal or general use is legally restricted. The Company reports restricted cash as other assets in the Consolidated Balance Sheets, and determines current or non-current classification based on the expected duration of the restriction. The Company reports restricted marketable securities as current or non-current marketable securities in the Consolidated Balance Sheets based on the classification of the underlying securities.

Fair Value Measurements

The fair values of the Company's money market funds and certain marketable equity securities are based on quoted prices in active markets for identical assets. The valuation techniques used to measure the fair value of the Company's debt instruments and all other financial instruments, which generally have counterparties with high credit ratings, are based on quoted market prices or model-driven valuations using significant inputs derived from or corroborated by observable market data.

Note 2 – Revenue Recognition

Net sales consist of revenue from the sale of iPhone, Mac, iPad, Services and other products. The Company recognizes revenue at the amount to which it expects to be entitled when control of the products or services is transferred to its customers. Control is generally transferred when the Company has a present right to payment and title and the significant risks and rewards of ownership of products or services are transferred to its customers. For most of the Company's Products net sales, control transfers when products are shipped. For the Company's Services net sales, control transfers over time as services are delivered. Payment for Products and Services net sales is collected within a short period following transfer of control or commencement of delivery of services, as applicable.

The Company records reductions to Products net sales related to future product returns, price protection and other customer incentive programs based on the Company's expectations and historical experience.

For arrangements with multiple performance obligations, which represent promises within an arrangement that are distinct, the Company allocates revenue to all distinct performance obligations based on their relative stand-alone selling prices ("SSPs"). When available, the Company uses observable prices to determine SSPs. When observable prices are not available, SSPs are established that reflect the Company's best estimates of what the selling prices of the performance obligations would be if they were sold regularly on a stand-alone basis. The Company's process for estimating SSPs without observable prices considers multiple factors that may vary depending upon the unique facts and circumstances related to each performance obligation including, where applicable, prices charged by the Company for similar offerings, market trends in the pricing for similar offerings, product-specific business objectives and the estimated cost to provide the performance obligation.

The Company has identified up to three performance obligations regularly included in arrangements involving the sale of iPhone, Mac, iPad and certain other products. The first performance obligation, which represents the substantial portion of the allocated sales price, is the hardware and bundled software delivered at the time of sale. The second performance obligation is the right to receive certain product-related bundled services, which include iCloud, Siri and Maps. The third performance obligation is the right to receive, on a when-and-if-available basis, future unspecified software upgrades relating to the software bundled with each device. The Company allocates revenue and any related discounts to these performance obligations based on their relative SSPs. Because the Company lacks observable prices for the undelivered performance obligations, the allocation of revenue is based on the Company's estimated SSPs. Revenue allocated to the delivered hardware and bundled software is recognized when control has transferred to the customer, which generally occurs when the product is shipped. Revenue allocated to the product-related bundled services and unspecified software upgrade rights is deferred and recognized on a straight-line basis over the estimated period they are expected to be provided. Cost of sales related to delivered hardware and bundled software, including estimated warranty costs, are recognized at the time of sale. Costs incurred to provide product-related bundled services and unspecified software upgrade rights are recognized as cost of sales as incurred.

For certain long-term service arrangements, the Company has performance obligations for services it has not yet delivered. For these arrangements, the Company does not have a right to bill for the undelivered services. The Company has determined that any unbilled consideration relates entirely to the value of the undelivered services. Accordingly, the Company has not recognized revenue, and has elected not to disclose amounts, related to these undelivered services.

For the sale of third-party products where the Company obtains control of the product before transferring it to the customer, the Company recognizes revenue based on the gross amount billed to customers. The Company considers multiple factors when determining whether it obtains control of third-party products including, but not limited to, evaluating if it can establish the price of the product, retains inventory risk for tangible products or has the responsibility for ensuring acceptability of the product. For third-party applications sold through the App Store and certain digital content sold through the Company's other digital content stores, the Company does not obtain control of the product before transferring it to the customer. Therefore, the Company accounts for such sales on a net basis by recognizing in Services net sales only the commission it retains.

The Company has elected to record revenue net of taxes collected from customers that are remitted to governmental authorities, with the collected taxes recorded within other current liabilities until remitted to the relevant government authority.

Deferred Revenue

As of September 26, 2020 and September 28, 2019, the Company had total deferred revenue of $10.2 billion and $8.1 billion, respectively. As of September 26, 2020, the Company expects 65% of total deferred revenue to be realized in less than a year, 25% within one-to-two years, 8% within two-to-three years and 2% in greater than three years.

Disaggregated Revenue

Net sales disaggregated by significant products and services for 2020, 2019 and 2018 were as follows (in millions):

	2020	2019	2018
iPhone [1]	$ 137,781	$ 142,381	$ 164,888
Mac [1]	28,622	25,740	25,198
iPad [1]	23,724	21,280	18,380
Wearables, Home and Accessories [1][2]	30,620	24,482	17,381
Services [3]	53,768	46,291	39,748
Total net sales [4]	$ 274,515	$ 260,174	$ 265,595

(1) Products net sales include amortization of the deferred value of unspecified software upgrade rights, which are bundled in the sales price of the respective product.

(2) Wearables, Home and Accessories net sales include sales of AirPods, Apple TV, Apple Watch, Beats products, HomePod, iPod touch and Apple-branded and third-party accessories.

(3) Services net sales include sales from the Company's advertising, AppleCare, digital content and other services. Services net sales also include amortization of the deferred value of Maps, Siri, and free iCloud storage and Apple TV+ services, which are bundled in the sales price of certain products.

(4) Includes $5.0 billion of revenue recognized in 2020 that was included in deferred revenue as of September 28, 2019, $5.9 billion of revenue recognized in 2019 that was included in deferred revenue as of September 29, 2018, and $5.8 billion of revenue recognized in 2018 that was included in deferred revenue as of September 30, 2017.

The Company's proportion of net sales by disaggregated revenue source was generally consistent for each reportable segment in Note 11, "Segment Information and Geographic Data" for 2020, 2019 and 2018.

Note 3 – Financial Instruments

Cash, Cash Equivalents and Marketable Securities

The following tables show the Company's cash and marketable securities by significant investment category as of September 26, 2020 and September 28, 2019 (in millions):

	2020						
	Adjusted Cost	Unrealized Gains	Unrealized Losses	Fair Value	Cash and Cash Equivalents	Current Marketable Securities	Non-Current Marketable Securities
Cash	$ 17,773	$ —	$ —	$ 17,773	$ 17,773	$ —	$ —
Level 1 [1]:							
Money market funds	2,171	—	—	2,171	2,171	—	—
Subtotal	2,171	—	—	2,171	2,171	—	—
Level 2 [2]:							
U.S. Treasury securities	28,439	331	—	28,770	8,580	11,972	8,218
U.S. agency securities	8,604	8	—	8,612	2,009	3,078	3,525
Non-U.S. government securities	19,361	275	(186)	19,450	255	3,329	15,866
Certificates of deposit and time deposits	10,399	—	—	10,399	4,043	6,246	110
Commercial paper	11,226	—	—	11,226	3,185	8,041	—
Corporate debt securities	76,937	1,834	(175)	78,596	—	19,687	58,909
Municipal securities	1,001	22	—	1,023	—	139	884
Mortgage- and asset-backed securities	13,520	314	(24)	13,810	—	435	13,375
Subtotal	169,487	2,784	(385)	171,886	18,072	52,927	100,887
Total [3]	$ 189,431	$ 2,784	$ (385)	$ 191,830	$ 38,016	$ 52,927	$ 100,887

	2019						
	Adjusted Cost	Unrealized Gains	Unrealized Losses	Fair Value	Cash and Cash Equivalents	Current Marketable Securities	Non-Current Marketable Securities
Cash	$ 12,204	$ —	$ —	$ 12,204	$ 12,204	$ —	$ —
Level 1 [1]:							
Money market funds	15,897	—	—	15,897	15,897	—	—
Subtotal	15,897	—	—	15,897	15,897	—	—
Level 2 [2]:							
U.S. Treasury securities	30,293	33	(62)	30,264	6,165	9,817	14,282
U.S. agency securities	9,767	1	(3)	9,765	6,489	2,249	1,027
Non-U.S. government securities	19,821	337	(50)	20,108	749	3,168	16,191
Certificates of deposit and time deposits	4,041	—	—	4,041	2,024	1,922	95
Commercial paper	12,433	—	—	12,433	5,193	7,240	—
Corporate debt securities	85,383	756	(92)	86,047	123	26,127	59,797
Municipal securities	958	8	(1)	965	—	68	897
Mortgage- and asset-backed securities	14,180	67	(73)	14,174	—	1,122	13,052
Subtotal	176,876	1,202	(281)	177,797	20,743	51,713	105,341
Total [3]	$ 204,977	$ 1,202	$ (281)	$ 205,898	$ 48,844	$ 51,713	$ 105,341

(1) Level 1 fair value estimates are based on quoted prices in active markets for identical assets or liabilities.

(2) Level 2 fair value estimates are based on observable inputs other than quoted prices in active markets for identical assets and liabilities, quoted prices for identical or similar assets or liabilities in inactive markets, or other inputs that are observable or can be corroborated by observable market data for substantially the full term of the assets or liabilities.

(3) As of September 26, 2020 and September 28, 2019, total marketable securities included $18.6 billion and $18.9 billion, respectively, that was restricted from general use, related to the State Aid Decision (refer to Note 5, "Income Taxes") and other agreements.

The Company may sell certain of its marketable debt securities prior to their stated maturities for reasons including, but not limited to, managing liquidity, credit risk, duration and asset allocation. The maturities of the Company's non-current marketable debt securities generally range from one to five years.

The Company typically invests in highly rated securities, with the primary objective of minimizing the potential risk of principal loss. The Company's investment policy generally requires securities to be investment grade and limits the amount of credit exposure to any one issuer. Fair values were determined for each individual security in the investment portfolio. When evaluating a marketable debt security for other-than-temporary impairment, the Company reviews factors such as the duration and extent to which the fair value of the security is less than its cost, the financial condition of the issuer and any changes thereto, and the Company's intent to sell, or whether it will more likely than not be required to sell, the security before recovery of its amortized cost basis. As of September 26, 2020, the Company does not consider any of its marketable debt securities to be other-than-temporarily impaired.

Non-Marketable Securities

The Company holds non-marketable equity securities of certain privately held companies without readily determinable fair values. As of September 26, 2020 and September 28, 2019, the Company's non-marketable equity securities had a carrying value of $2.8 billion and $2.9 billion, respectively.

Restricted Cash

A reconciliation of the Company's cash and cash equivalents in the Consolidated Balance Sheets to cash, cash equivalents and restricted cash in the Consolidated Statements of Cash Flows as of September 26, 2020 and September 28, 2019 is as follows (in millions):

	2020	2019
Cash and cash equivalents	$ 38,016	$ 48,844
Restricted cash included in other current assets	36	23
Restricted cash included in other non-current assets	1,737	1,357
Cash, cash equivalents and restricted cash	$ 39,789	$ 50,224

The Company's restricted cash primarily consisted of cash to support the Company's iPhone Upgrade Program.

Derivative Financial Instruments

The Company may use derivatives to partially offset its business exposure to foreign currency and interest rate risk on expected future cash flows, net investments in certain foreign subsidiaries, and certain existing assets and liabilities. However, the Company may choose not to hedge certain exposures for a variety of reasons including, but not limited to, accounting considerations or the prohibitive economic cost of hedging particular exposures. There can be no assurance the hedges will offset more than a portion of the financial impact resulting from movements in foreign currency exchange or interest rates.

To protect gross margins from fluctuations in foreign currency exchange rates, certain of the Company's subsidiaries whose functional currency is the U.S. dollar may hedge a portion of forecasted foreign currency revenue, and subsidiaries whose functional currency is not the U.S. dollar may hedge a portion of forecasted inventory purchases not denominated in the subsidiaries' functional currencies. The Company may enter into forward contracts, option contracts or other instruments to manage this risk and may designate these instruments as cash flow hedges. The Company generally hedges portions of its forecasted foreign currency exposure associated with revenue and inventory purchases, typically for up to 12 months.

To protect the net investment in a foreign operation from fluctuations in foreign currency exchange rates, the Company may enter into foreign currency forward and option contracts to offset a portion of the changes in the carrying amounts of these investments due to fluctuations in foreign currency exchange rates. In addition, the Company may use non-derivative financial instruments, such as its foreign currency–denominated debt, as hedges of its net investments in certain foreign subsidiaries. In both of these cases, the Company designates these instruments as net investment hedges.

To protect the Company's foreign currency–denominated term debt or marketable securities from fluctuations in foreign currency exchange rates, the Company may enter into forward contracts, cross-currency swaps or other instruments. These instruments may offset a portion of the foreign currency remeasurement gains or losses, or changes in fair value. The Company may designate these instruments as either cash flow or fair value hedges. As of September 26, 2020, the Company's hedged term debt– and marketable securities–related foreign currency transactions are expected to be recognized within 22 years.

The Company may also enter into non-designated foreign currency contracts to offset a portion of the foreign currency exchange gains and losses generated by the remeasurement of certain assets and liabilities denominated in non-functional currencies.

To protect the Company's foreign currency–denominated term debt or marketable securities from fluctuations in interest rates, the Company may enter into interest rate swaps, options or other instruments. These instruments may offset a portion of the changes in interest income or expense, or changes in fair value. The Company designates these instruments as either cash flow or fair value hedges. As of September 26, 2020, the Company's hedged interest rate transactions are expected to be recognized within seven years.

Cash Flow Hedges

Cash flow hedge amounts that are included in the assessment of hedge effectiveness are deferred in AOCI until the hedged item is recognized in earnings. Deferred gains and losses associated with cash flow hedges of foreign currency revenue are recognized as a component of net sales in the same period as the related revenue is recognized, and deferred gains and losses related to cash flow hedges of inventory purchases are recognized as a component of cost of sales in the same period as the related costs are recognized. Deferred gains and losses associated with cash flow hedges of interest income or expense are recognized in OI&E in the same period as the related income or expense is recognized. For options designated as cash flow hedges, the time value is excluded from the assessment of hedge effectiveness and recognized in the financial statement line item to which the hedge relates on a straight-line basis over the life of the hedge. Changes in the fair value of amounts excluded from the assessment of hedge effectiveness are recognized in OCI.

Derivative instruments designated as cash flow hedges must be de-designated as hedges when it is probable the forecasted hedged transaction will not occur in the initially identified time period or within a subsequent two-month time period. Deferred gains and losses in AOCI associated with such derivative instruments are reclassified into OI&E in the period of de-designation. Any subsequent changes in fair value of such derivative instruments are reflected in OI&E unless they are re-designated as hedges of other transactions.

Net Investment Hedges

Net investment hedge amounts that are included in the assessment of hedge effectiveness are recorded in OCI as a part of the cumulative translation adjustment. For foreign exchange forward contracts designated as net investment hedges, the forward carry component is excluded from the assessment of hedge effectiveness and recognized in OCI on a straight-line basis over the life of the hedge. Changes in the fair value of amounts excluded from the assessment of hedge effectiveness are recognized in OCI.

Fair Value Hedges

Fair value hedge gains and losses related to amounts that are included in the assessment of hedge effectiveness are recognized in earnings along with a corresponding loss or gain related to the change in value of the hedged item in the same line in the Consolidated Statements of Operations. For foreign exchange forward contracts designated as fair value hedges, the forward carry component is excluded from the assessment of hedge effectiveness and recognized in OI&E on a straight-line basis over the life of the hedge. Amounts excluded from the effectiveness assessment of fair value hedges and recognized in OI&E were gains of $465 million and $777 million for 2020 and 2019, respectively. Changes in the fair value of amounts excluded from the assessment of hedge effectiveness are recognized in OCI.

Non-Designated Derivatives

Derivatives that are not designated as hedging instruments are adjusted to fair value through earnings in the financial statement line item to which the derivative relates.

The Company records all derivatives in the Consolidated Balance Sheets at fair value. The Company's accounting treatment for these derivative instruments is based on its hedge designation. The following tables show the Company's derivative instruments at gross fair value as of September 26, 2020 and September 28, 2019 (in millions):

	2020		
	Fair Value of Derivatives Designated as Hedge Instruments	Fair Value of Derivatives Not Designated as Hedge Instruments	Total Fair Value
Derivative assets [1]:			
Foreign exchange contracts	$ 749	$ 303	$ 1,052
Interest rate contracts	$ 1,557	$ —	$ 1,557
Derivative liabilities [2]:			
Foreign exchange contracts	$ 1,561	$ 485	$ 2,046

	2019		
	Fair Value of Derivatives Designated as Hedge Instruments	Fair Value of Derivatives Not Designated as Hedge Instruments	Total Fair Value
Derivative assets [1]:			
Foreign exchange contracts	$ 1,798	$ 323	$ 2,121
Interest rate contracts	$ 685	$ —	$ 685
Derivative liabilities [2]:			
Foreign exchange contracts	$ 1,341	$ 160	$ 1,501
Interest rate contracts	$ 105	$ —	$ 105

(1) The fair value of derivative assets is measured using Level 2 fair value inputs and is included in other current assets and other non-current assets in the Consolidated Balance Sheets.

(2) The fair value of derivative liabilities is measured using Level 2 fair value inputs and is included in other current liabilities and other non-current liabilities in the Consolidated Balance Sheets.

The Company classifies cash flows related to derivative financial instruments as operating activities in its Consolidated Statements of Cash Flows.

The following table shows the pre-tax gains and losses of the Company's derivative and non-derivative instruments designated as cash flow and fair value hedges in OCI and the Consolidated Statements of Operations for 2020, 2019 and 2018 (in millions):

	2020	2019	2018
Gains/(Losses) recognized in OCI – included in effectiveness assessment:			
Cash flow hedges:			
Foreign exchange contracts	$ 365	$ (959)	$ 682
Interest rate contracts	(57)	—	1
Total	$ 308	$ (959)	$ 683
Net investment hedges:			
Foreign currency debt	$ 15	$ (58)	$ 4
Gains/(Losses) reclassified from AOCI into net income – included in effectiveness assessment:			
Cash flow hedges:			
Foreign exchange contracts	$ 1,553	$ (116)	$ (482)
Interest rate contracts	(8)	(7)	1
Total	$ 1,545	$ (123)	$ (481)

The amount excluded from the effectiveness assessment of the Company's hedges and recognized in OCI was a loss of $168 million for 2020.

The following tables show information about the Company's derivative instruments designated as fair value hedges and the related hedged items for 2020, 2019 and 2018 and as of September 26, 2020 (in millions):

	2020	2019	2018
Gains/(Losses) on derivative instruments [1]:			
Foreign exchange contracts	$ (992)	$ 1,020	$ (168)
Interest rate contracts	1,114	2,068	(1,363)
Total	$ 122	$ 3,088	$ (1,531)
Gains/(Losses) related to hedged items [1]:			
Marketable securities	$ 991	$ (1,018)	$ 167
Fixed-rate debt	(1,114)	(2,068)	1,363
Total	$ (123)	$ (3,086)	$ 1,530

	2020
Carrying amounts of hedged assets/(liabilities):	
Marketable securities [2]	$ 16,270
Fixed-rate debt [3]	$ (21,033)
Cumulative hedging adjustments included in the carrying amounts of hedged items:	
Marketable securities carrying amount increases/(decreases)	$ 493
Fixed-rate debt carrying amount (increases)/decreases	$ (1,541)

(1) Gains and losses related to fair value hedges are included in OI&E in the Consolidated Statements of Operations.

(2) The carrying amounts of marketable securities that are designated as hedged items in fair value hedges are included in current marketable securities and non-current marketable securities in the Consolidated Balance Sheet.

(3) The carrying amounts of fixed-rate debt instruments that are designated as hedged items in fair value hedges are included in current term debt and non-current term debt in the Consolidated Balance Sheet.

The following table shows the notional amounts of the Company's outstanding derivative instruments and credit risk amounts associated with outstanding or unsettled derivative instruments as of September 26, 2020 and September 28, 2019 (in millions):

	2020		2019	
	Notional Amount	Credit Risk Amount	Notional Amount	Credit Risk Amount
Instruments designated as accounting hedges:				
Foreign exchange contracts	$ 57,410	$ 749	$ 61,795	$ 1,798
Interest rate contracts	$ 20,700	$ 1,557	$ 31,250	$ 685
Instruments not designated as accounting hedges:				
Foreign exchange contracts	$ 88,636	$ 303	$ 76,868	$ 323

The notional amounts for outstanding derivative instruments provide one measure of the transaction volume outstanding and do not represent the amount of the Company's exposure to credit or market loss. The credit risk amounts represent the Company's gross exposure to potential accounting loss on derivative instruments that are outstanding or unsettled if all counterparties failed to perform according to the terms of the contract, based on then-current currency or interest rates at each respective date. The Company's exposure to credit loss and market risk will vary over time as currency and interest rates change. Although the table above reflects the notional and credit risk amounts of the Company's derivative instruments, it does not reflect the gains or losses associated with the exposures and transactions that the instruments are intended to hedge. The amounts ultimately realized upon settlement of these financial instruments, together with the gains and losses on the underlying exposures, will depend on actual market conditions during the remaining life of the instruments.

The Company generally enters into master netting arrangements, which are designed to reduce credit risk by permitting net settlement of transactions with the same counterparty. To further limit credit risk, the Company generally enters into collateral security arrangements that provide for collateral to be received or posted when the net fair value of certain financial instruments fluctuates from contractually established thresholds. The Company presents its derivative assets and derivative liabilities at their gross fair values in its Consolidated Balance Sheets. As of September 26, 2020 and September 28, 2019, the net cash collateral received by the Company related to derivative instruments under its collateral security arrangements was $875 million and $1.6 billion, respectively. The Company includes gross collateral posted and received in other current assets and other current liabilities in the Consolidated Balance Sheets, respectively.

Under master netting arrangements with the respective counterparties to the Company's derivative contracts, the Company is allowed to net settle transactions with a single net amount payable by one party to the other. As of September 26, 2020 and September 28, 2019, the potential effects of these rights of set-off associated with the Company's derivative contracts, including the effects of collateral, would be a reduction to both derivative assets and derivative liabilities of $2.8 billion and $2.7 billion, respectively, resulting in net derivative liabilities of $312 million and $407 million, respectively.

Accounts Receivable

Trade Receivables

The Company has considerable trade receivables outstanding with its third-party cellular network carriers, wholesalers, retailers, resellers, small and mid-sized businesses and education, enterprise and government customers. The Company generally does not require collateral from its customers; however, the Company will require collateral or third-party credit support in certain instances to limit credit risk. In addition, when possible, the Company attempts to limit credit risk on trade receivables with credit insurance for certain customers or by requiring third-party financing, loans or leases to support credit exposure. These credit-financing arrangements are directly between the third-party financing company and the end customer. As such, the Company generally does not assume any recourse or credit risk sharing related to any of these arrangements.

As of both September 26, 2020 and September 28, 2019, the Company had no customers that individually represented 10% or more of total trade receivables. The Company's cellular network carriers accounted for 51% of total trade receivables as of September 28, 2019.

Vendor Non-Trade Receivables

The Company has non-trade receivables from certain of its manufacturing vendors resulting from the sale of components to these vendors who manufacture sub-assemblies or assemble final products for the Company. The Company purchases these components directly from suppliers. As of September 26, 2020, the Company had two vendors that individually represented 10% or more of total vendor non-trade receivables, which accounted for 57% and 11%. As of September 28, 2019, the Company had two vendors that individually represented 10% or more of total vendor non-trade receivables, which accounted for 59% and 14%.

Note 4 – Consolidated Financial Statement Details

The following tables show the Company's consolidated financial statement details as of September 26, 2020 and September 28, 2019 (in millions):

Property, Plant and Equipment, Net

	2020	2019
Land and buildings	$ 17,952	$ 17,085
Machinery, equipment and internal-use software	75,291	69,797
Leasehold improvements	10,283	9,075
Gross property, plant and equipment	103,526	95,957
Accumulated depreciation and amortization	(66,760)	(58,579)
Total property, plant and equipment, net	$ 36,766	$ 37,378

Other Non-Current Liabilities

	2020	2019
Long-term taxes payable	$ 28,170	$ 29,545
Other non-current liabilities	26,320	20,958
Total other non-current liabilities	$ 54,490	$ 50,503

Other Income/(Expense), Net

The following table shows the detail of OI&E for 2020, 2019 and 2018 (in millions):

	2020	2019	2018
Interest and dividend income	$ 3,763	$ 4,961	$ 5,686
Interest expense	(2,873)	(3,576)	(3,240)
Other income/(expense), net	(87)	422	(441)
Total other income/(expense), net	$ 803	$ 1,807	$ 2,005

Note 5 – Income Taxes

U.S. Tax Cuts and Jobs Act

On December 22, 2017, the U.S. enacted the Tax Cuts and Jobs Act (the "Act"), which significantly changed U.S. tax law. The Act lowered the Company's U.S. statutory federal income tax rate from 35% to 21% effective January 1, 2018, while also imposing a deemed repatriation tax on previously deferred foreign income. The Act also created a new minimum tax on certain foreign earnings, for which the Company has elected to record certain deferred tax assets and liabilities.

Provision for Income Taxes and Effective Tax Rate

The provision for income taxes for 2020, 2019 and 2018, consisted of the following (in millions):

	2020	2019	2018
Federal:			
Current	$ 6,306	$ 6,384	$ 41,425
Deferred	(3,619)	(2,939)	(33,819)
Total	2,687	3,445	7,606
State:			
Current	455	475	551
Deferred	21	(67)	48
Total	476	408	599
Foreign:			
Current	3,134	3,962	3,986
Deferred	3,383	2,666	1,181
Total	6,517	6,628	5,167
Provision for income taxes	$ 9,680	$ 10,481	$ 13,372

The foreign provision for income taxes is based on foreign pre-tax earnings of $38.1 billion, $44.3 billion and $48.0 billion in 2020, 2019 and 2018, respectively.

A reconciliation of the provision for income taxes, with the amount computed by applying the statutory federal income tax rate (21% in 2020 and 2019; 24.5% in 2018) to income before provision for income taxes for 2020, 2019 and 2018, is as follows (dollars in millions):

	2020	2019	2018
Computed expected tax	$ 14,089	$ 13,805	$ 17,890
State taxes, net of federal effect	423	423	271
Impacts of the Act	(582)	—	1,515
Earnings of foreign subsidiaries	(2,534)	(2,625)	(5,606)
Research and development credit, net	(728)	(548)	(560)
Excess tax benefits from equity awards	(930)	(639)	(675)
Other	(58)	65	537
Provision for income taxes	$ 9,680	$ 10,481	$ 13,372
Effective tax rate	14.4 %	15.9 %	18.3 %

Deferred Tax Assets and Liabilities

As of September 26, 2020 and September 28, 2019, the significant components of the Company's deferred tax assets and liabilities were (in millions):

	2020	2019
Deferred tax assets:		
Amortization and depreciation	$ 8,317	$ 11,645
Accrued liabilities and other reserves	4,934	5,196
Lease liabilities	2,038	—
Deferred revenue	1,638	1,372
Other	2,409	2,174
Total deferred tax assets	19,336	20,387
Less: Valuation allowance	(1,041)	(747)
Total deferred tax assets, net	18,295	19,640
Deferred tax liabilities:		
Minimum tax on foreign earnings	7,045	10,809
Right-of-use assets	1,862	—
Unrealized gains	526	186
Other	705	600
Total deferred tax liabilities	10,138	11,595
Net deferred tax assets	$ 8,157	$ 8,045

Deferred tax assets and liabilities reflect the effects of tax credits and the future income tax effects of temporary differences between the consolidated financial statement carrying amounts of existing assets and liabilities and their respective tax bases, and are measured using enacted tax rates that apply to taxable income in the years in which those temporary differences are expected to be recovered or settled.

Uncertain Tax Positions

As of September 26, 2020, the total amount of gross unrecognized tax benefits was $16.5 billion, of which $8.8 billion, if recognized, would impact the Company's effective tax rate. As of September 28, 2019, the total amount of gross unrecognized tax benefits was $15.6 billion, of which $8.6 billion, if recognized, would have impacted the Company's effective tax rate.

The aggregate change in the balance of gross unrecognized tax benefits, which excludes interest and penalties, for 2020, 2019 and 2018, is as follows (in millions):

	2020	2019	2018
Beginning balances	$ 15,619	$ 9,694	$ 8,407
Increases related to tax positions taken during a prior year	454	5,845	2,431
Decreases related to tax positions taken during a prior year	(791)	(686)	(2,212)
Increases related to tax positions taken during the current year	1,347	1,697	1,824
Decreases related to settlements with taxing authorities	(85)	(852)	(756)
Decreases related to expiration of the statute of limitations	(69)	(79)	—
Ending balances	$ 16,475	$ 15,619	$ 9,694

The Company is subject to taxation and files income tax returns in the U.S. federal jurisdiction and many state and foreign jurisdictions. The U.S. Internal Revenue Service (the "IRS") concluded its review of the years 2013 through 2015 in 2018, and all years before 2016 are closed. Tax years after 2014 remain open in certain major foreign jurisdictions and are subject to examination by the taxing authorities. The Company believes that an adequate provision has been made for any adjustments that may result from tax examinations. However, the outcome of tax audits cannot be predicted with certainty. If any issues addressed in the Company's tax audits are resolved in a manner inconsistent with its expectations, the Company could be required to adjust its provision for income taxes in the period such resolution occurs. Although the timing of resolution and/or closure of audits is not certain, the Company believes it is reasonably possible that its gross unrecognized tax benefits could decrease in the next 12 months by as much as $3.9 billion.

Interest and Penalties

The Company includes interest and penalties related to income tax matters within the provision for income taxes. As of September 26, 2020 and September 28, 2019, the total amount of gross interest and penalties accrued was $1.4 billion and $1.3 billion, respectively. The Company recognized interest and penalty expense in 2020, 2019 and 2018 of $85 million, $73 million and $489 million, respectively.

European Commission State Aid Decision

On August 30, 2016, the European Commission announced its decision that Ireland granted state aid to the Company by providing tax opinions in 1991 and 2007 concerning the tax allocation of profits of the Irish branches of two subsidiaries of the Company (the "State Aid Decision"). The State Aid Decision ordered Ireland to calculate and recover additional taxes from the Company for the period June 2003 through December 2014. Irish legislative changes, effective as of January 2015, eliminated the application of the tax opinions from that date forward. The recovery amount was calculated to be €13.1 billion, plus interest of €1.2 billion. The Company and Ireland appealed the State Aid Decision to the General Court of the Court of Justice of the European Union (the "General Court"). On July 15, 2020, the General Court annulled the State Aid Decision. On September 25, 2020, the European Commission appealed the General Court's decision to the European Court of Justice. The Company believes that any incremental Irish corporate income taxes potentially due related to the State Aid Decision would be creditable against U.S. taxes, subject to any foreign tax credit limitations in the Act.

On an annual basis, the Company may request approval from the Irish Minister for Finance to reduce the recovery amount for certain taxes paid to other countries. As of September 26, 2020, the adjusted recovery amount was €12.9 billion, excluding interest. The adjusted recovery amount plus interest is funded into escrow, where it will remain restricted from general use pending the conclusion of all legal proceedings. Refer to the Cash, Cash Equivalents and Marketable Securities section of Note 3, "Financial Instruments" for more information.

Note 6 – Debt

Commercial Paper and Repurchase Agreements

The Company issues unsecured short-term promissory notes ("Commercial Paper") pursuant to a commercial paper program. The Company uses net proceeds from the commercial paper program for general corporate purposes, including dividends and share repurchases. As of September 26, 2020 and September 28, 2019, the Company had $5.0 billion and $6.0 billion of Commercial Paper outstanding, respectively, with maturities generally less than nine months. The weighted-average interest rate of the Company's Commercial Paper was 0.62% and 2.24% as of September 26, 2020 and September 28, 2019, respectively. The following table provides a summary of cash flows associated with the issuance and maturities of Commercial Paper for 2020, 2019 and 2018 (in millions):

	2020	2019	2018
Maturities 90 days or less:			
Proceeds from/(Repayments of) commercial paper, net	$ 100	$ (3,248)	$ 1,044
Maturities greater than 90 days:			
Proceeds from commercial paper	6,185	13,874	14,555
Repayments of commercial paper	(7,248)	(16,603)	(15,636)
Repayments of commercial paper, net	(1,063)	(2,729)	(1,081)
Total repayments of commercial paper, net	$ (963)	$ (5,977)	$ (37)

In 2020, the Company entered into agreements to sell certain of its marketable securities with a promise to repurchase the securities at a specified time and amount ("Repos"). Due to the Company's continuing involvement with the marketable securities, the Company accounted for its Repos as collateralized borrowings. The Company entered into $5.2 billion of Repos during 2020, all of which had been settled as of September 26, 2020.

Term Debt

As of September 26, 2020, the Company had outstanding floating- and fixed-rate notes with varying maturities for an aggregate principal amount of $106.1 billion (collectively the "Notes"). The Notes are senior unsecured obligations and interest is payable in arrears. The following table provides a summary of the Company's term debt as of September 26, 2020 and September 28, 2019:

		2020		2019	
	Maturities (calendar year)	**Amount** (in millions)	**Effective Interest Rate**	**Amount** (in millions)	**Effective Interest Rate**
2013 – 2019 debt issuances:					
Floating-rate notes	2021 – 2022	$ 2,250	0.60% – 1.39%	$ 4,250	2.25% – 3.28%
Fixed-rate 0.375% – 4.650% notes	2020 – 2049	87,487	0.28% – 4.78%	97,429	0.28% – 4.78%
First quarter 2020 debt issuance of €2.0 billion:					
Fixed-rate 0.000% – 0.500% notes	2025 – 2031	2,341	0.03% – 0.56%	—	— %
Third quarter 2020 debt issuance of $8.5 billion:					
Fixed-rate 0.750% – 2.650% notes	2023 – 2050	8,500	0.84% – 2.72%	—	— %
Fourth quarter 2020 debt issuance of $5.5 billion:					
Fixed-rate 0.550% – 2.550% notes	2025 – 2060	5,500	0.60% – 2.59%	—	— %
Total term debt		106,078		101,679	
Unamortized premium/(discount) and issuance costs, net		(314)		(224)	
Hedge accounting fair value adjustments		1,676		612	
Less: Current portion of term debt		(8,773)		(10,260)	
Total non-current portion of term debt		$ 98,667		$ 91,807	

To manage interest rate risk on certain of its U.S. dollar–denominated fixed- or floating-rate notes, the Company has entered into interest rate swaps to effectively convert the fixed interest rates to floating interest rates or the floating interest rates to fixed interest rates on a portion of these notes. Additionally, to manage foreign currency risk on certain of its foreign currency–denominated notes, the Company has entered into foreign currency swaps to effectively convert these notes to U.S. dollar–denominated notes.

As of September 28, 2019, a portion of the Company's Japanese yen–denominated notes with a carrying value of $1.0 billion was designated as a hedge of the foreign currency exposure of the Company's net investment in a foreign operation. The Company's Japanese yen–denominated notes matured during 2020 and the associated net investment hedges were terminated. For further discussion regarding the Company's use of derivative instruments, refer to the Derivative Financial Instruments section of Note 3, "Financial Instruments."

The effective interest rates for the Notes include the interest on the Notes, amortization of the discount or premium and, if applicable, adjustments related to hedging. The Company recognized $2.8 billion, $3.2 billion and $3.0 billion of interest cost on its term debt for 2020, 2019 and 2018, respectively.

The future principal payments for the Company's Notes as of September 26, 2020, are as follows (in millions):

2021	$ 8,750
2022	9,569
2023	11,389
2024	10,115
2025	10,914
Thereafter	55,341
Total term debt	$ 106,078

As of September 26, 2020 and September 28, 2019, the fair value of the Company's Notes, based on Level 2 inputs, was $117.1 billion and $107.5 billion, respectively.

Note 7 – Shareholders' Equity

Share Repurchase Program

As of September 26, 2020, the Company was authorized to purchase up to $225 billion of the Company's common stock under a share repurchase program, of which $168.6 billion had been utilized. During 2020, the Company repurchased 917 million shares of its common stock for $72.5 billion, including 141 million shares delivered under a $10.0 billion November 2019 accelerated share repurchase arrangement ("ASR") and 64 million shares delivered under a $6.0 billion May 2020 ASR. The Company's share repurchase program does not obligate it to acquire any specific number of shares. Under this program, shares may be repurchased in privately negotiated and/or open market transactions, including under plans complying with Rule 10b5-1 under the Securities Exchange Act of 1934, as amended (the "Exchange Act").

Shares of Common Stock

The following table shows the changes in shares of common stock for 2020, 2019 and 2018 (in thousands):

	2020	2019	2018
Common stock outstanding, beginning balances	17,772,945	19,019,943	20,504,805
Common stock repurchased	(917,270)	(1,380,819)	(1,622,198)
Common stock issued, net of shares withheld for employee taxes	121,088	133,821	137,336
Common stock outstanding, ending balances	16,976,763	17,772,945	19,019,943

Note 8 – Comprehensive Income

The Company's OCI consists of foreign currency translation adjustments from those subsidiaries not using the U.S. dollar as their functional currency, net deferred gains and losses on certain derivative instruments accounted for as cash flow hedges and unrealized gains and losses on marketable debt securities classified as available-for-sale.

The following table shows the pre-tax amounts reclassified from AOCI into the Consolidated Statements of Operations, and the associated financial statement line items, for 2020 and 2019 (in millions):

Comprehensive Income Components	Financial Statement Line Items	2020	2019
Unrealized (gains)/losses on derivative instruments:			
Foreign exchange contracts	Total net sales	$ (365)	$ (206)
	Total cost of sales	(584)	(482)
	Other income/(expense), net	(604)	784
Interest rate contracts	Other income/(expense), net	8	7
		(1,545)	103
Unrealized (gains)/losses on marketable debt securities	Other income/(expense), net	(82)	31
Total amounts reclassified from AOCI		$ (1,627)	$ 134

The following table shows the changes in AOCI by component for 2020 and 2019 (in millions):

	Cumulative Foreign Currency Translation	Unrealized Gains/Losses on Derivative Instruments	Unrealized Gains/Losses on Marketable Debt Securities	Total
Balances as of September 29, 2018	$ (1,055)	$ 810	$ (3,209)	$ (3,454)
Other comprehensive income/(loss) before reclassifications	(421)	(949)	4,854	3,484
Amounts reclassified from AOCI	—	103	31	134
Tax effect	13	208	(1,058)	(837)
Other comprehensive income/(loss)	(408)	(638)	3,827	2,781
Cumulative effect of change in accounting principle	—	—	89	89
Balances as of September 28, 2019	(1,463)	172	707	(584)
Other comprehensive income/(loss) before reclassifications	91	115	1,560	1,766
Amounts reclassified from AOCI	—	(1,545)	(82)	(1,627)
Tax effect	(3)	245	(339)	(97)
Other comprehensive income/(loss)	88	(1,185)	1,139	42
Cumulative effect of change in accounting principle [1]	—	136	—	136
Balances as of September 26, 2020	$ (1,375)	$ (877)	$ 1,846	$ (406)

(1) Refer to Note 1, “Summary of Significant Accounting Policies” for more information on the Company’s adoption of ASU 2017-12 in 2020.

Note 9 – Benefit Plans

2014 Employee Stock Plan

In the second quarter of 2014, shareholders approved the 2014 Employee Stock Plan (the “2014 Plan”) and terminated the Company’s authority to grant new awards under the 2003 Employee Stock Plan (the “2003 Plan”). The 2014 Plan provides for broad-based equity grants to employees, including executive officers, and permits the granting of RSUs, stock grants, performance-based awards, stock options and stock appreciation rights, as well as cash bonus awards. RSUs granted under the 2014 Plan generally vest over four years, based on continued employment, and are settled upon vesting in shares of the Company’s common stock on a one-for-one basis. RSUs granted under the 2014 Plan reduce the number of shares available for grant under the plan by a factor of two times the number of RSUs granted. RSUs canceled and shares withheld to satisfy tax withholding obligations increase the number of shares available for grant under the 2014 Plan utilizing a factor of two times the number of RSUs canceled or shares withheld. Currently, all RSUs granted under the 2014 Plan have dividend equivalent rights (“DERs”), which entitle holders of RSUs to the same dividend value per share as holders of common stock. DERs are subject to the same vesting and other terms and conditions as the corresponding unvested RSUs. DERs are accumulated and paid when the underlying shares vest. Upon approval of the 2014 Plan, the Company reserved 1.54 billion shares plus the number of shares remaining that were reserved but not issued under the 2003 Plan. Shares subject to outstanding awards under the 2003 Plan that expire, are canceled or otherwise terminate, or are withheld to satisfy tax withholding obligations for RSUs, will also be available for awards under the 2014 Plan. As of September 26, 2020, approximately 808 million shares were reserved for future issuance under the 2014 Plan.

Apple Inc. Non-Employee Director Stock Plan

The Apple Inc. Non-Employee Director Stock Plan (the “Director Plan”) is a shareholder-approved plan that (i) permits the Company to grant awards of RSUs or stock options to the Company’s non-employee directors, (ii) provides for automatic initial grants of RSUs upon a non-employee director joining the Board of Directors and automatic annual grants of RSUs at each annual meeting of shareholders, and (iii) permits the Board of Directors to prospectively change the value and relative mixture of stock options and RSUs for the initial and annual award grants and the methodology for determining the number of shares of the Company’s common stock subject to these grants, in each case within the limits set forth in the Director Plan and without further shareholder approval. RSUs granted under the Director Plan reduce the number of shares available for grant under the plan by a factor of two times the number of RSUs granted. The Director Plan expires on November 12, 2027. All RSUs granted under the Director Plan are entitled to DERs. DERs are subject to the same vesting and other terms and conditions as the corresponding unvested RSUs. DERs are accumulated and paid when the underlying shares vest. As of September 26, 2020, approximately 4 million shares were reserved for future issuance under the Director Plan.

Rule 10b5-1 Trading Plans

During the three months ended September 26, 2020, Section 16 officers Katherine L. Adams, Timothy D. Cook, Chris Kondo, Luca Maestri, Deirdre O'Brien and Jeffrey Williams had equity trading plans in place in accordance with Rule 10b5-1(c)(1) under the Exchange Act. An equity trading plan is a written document that pre-establishes the amounts, prices and dates (or formula for determining the amounts, prices and dates) of future purchases or sales of the Company's stock, including shares acquired under the Company's employee and director equity plans.

Employee Stock Purchase Plan

The Employee Stock Purchase Plan (the "Purchase Plan") is a shareholder-approved plan under which substantially all employees may purchase the Company's common stock through payroll deductions at a price equal to 85% of the lower of the fair market values of the stock as of the beginning or the end of six-month offering periods. An employee's payroll deductions under the Purchase Plan are limited to 10% of the employee's compensation and employees may not purchase more than $25,000 of stock during any calendar year. As of September 26, 2020, approximately 107 million shares were reserved for future issuance under the Purchase Plan.

401(k) Plan

The Company's 401(k) Plan is a deferred salary arrangement under Section 401(k) of the Internal Revenue Code. Under the 401(k) Plan, participating U.S. employees may defer a portion of their pre-tax earnings, up to the IRS annual contribution limit ($19,500 for calendar year 2020). The Company matches 50% to 100% of each employee's contributions, depending on length of service, up to a maximum of 6% of the employee's eligible earnings.

Restricted Stock Units

A summary of the Company's RSU activity and related information for 2020, 2019 and 2018, is as follows:

	Number of RSUs (in thousands)	Weighted-Average Grant Date Fair Value Per RSU	Aggregate Fair Value (in millions)
Balance as of September 30, 2017	390,284	$ 27.58	
RSUs granted	181,402	$ 40.72	
RSUs vested	(178,873)	$ 27.81	
RSUs canceled	(24,195)	$ 31.95	
Balance as of September 29, 2018	368,618	$ 33.65	
RSUs granted	147,409	$ 53.99	
RSUs vested	(168,350)	$ 33.80	
RSUs canceled	(21,609)	$ 40.71	
Balance as of September 28, 2019	326,068	$ 42.30	
RSUs granted	156,800	$ 59.20	
RSUs vested	(157,743)	$ 40.29	
RSUs canceled	(14,347)	$ 48.07	
Balance as of September 26, 2020	310,778	$ 51.58	$ 34,894

The fair value as of the respective vesting dates of RSUs was $10.8 billion, $8.6 billion and $7.6 billion for 2020, 2019 and 2018, respectively. The majority of RSUs that vested in 2020, 2019 and 2018 were net share settled such that the Company withheld shares with a value equivalent to the employees' obligation for the applicable income and other employment taxes, and remitted the cash to the appropriate taxing authorities. The total shares withheld were approximately 56 million, 59 million and 64 million for 2020, 2019 and 2018, respectively, and were based on the value of the RSUs on their respective vesting dates as determined by the Company's closing stock price. Total payments for the employees' tax obligations to taxing authorities were $3.9 billion, $3.0 billion and $2.7 billion in 2020, 2019 and 2018, respectively.

Share-Based Compensation

The following table shows share-based compensation expense and the related income tax benefit included in the Consolidated Statements of Operations for 2020, 2019 and 2018 (in millions):

	2020	2019	2018
Share-based compensation expense	$ 6,829	$ 6,068	$ 5,340
Income tax benefit related to share-based compensation expense	$ (2,476)	$ (1,967)	$ (1,893)

As of September 26, 2020, the total unrecognized compensation cost related to outstanding RSUs and stock options was $12.2 billion, which the Company expects to recognize over a weighted-average period of 2.6 years.

Note 10 – Commitments and Contingencies

Accrued Warranty and Guarantees

The following table shows changes in the Company's accrued warranties and related costs for 2020, 2019 and 2018 (in millions):

	2020	2019	2018
Beginning accrued warranty and related costs	$ 3,570	$ 3,692	$ 3,834
Cost of warranty claims	(2,956)	(3,857)	(4,115)
Accruals for product warranty	2,740	3,735	3,973
Ending accrued warranty and related costs	$ 3,354	$ 3,570	$ 3,692

The Company offers an iPhone Upgrade Program, which is available to customers who purchase a qualifying iPhone in the U.S., the U.K. and China mainland. The iPhone Upgrade Program provides customers the right to trade in that iPhone for a specified amount when purchasing a new iPhone, provided certain conditions are met. The Company accounts for the trade-in right as a guarantee liability and recognizes arrangement revenue net of the fair value of such right, with subsequent changes to the guarantee liability recognized within net sales.

Concentrations in the Available Sources of Supply of Materials and Product

Although most components essential to the Company's business are generally available from multiple sources, certain components are currently obtained from single or limited sources. The Company also competes for various components with other participants in the markets for smartphones, personal computers, tablets and other electronic devices. Therefore, many components used by the Company, including those that are available from multiple sources, are at times subject to industry-wide shortage and significant commodity pricing fluctuations.

The Company uses some custom components that are not commonly used by its competitors, and new products introduced by the Company often utilize custom components available from only one source. When a component or product uses new technologies, initial capacity constraints may exist until the suppliers' yields have matured or their manufacturing capacities have increased. The continued availability of these components at acceptable prices, or at all, may be affected if suppliers decide to concentrate on the production of common components instead of components customized to meet the Company's requirements.

The Company has entered into agreements for the supply of many components; however, there can be no guarantee that the Company will be able to extend or renew these agreements on similar terms, or at all.

Substantially all of the Company's hardware products are manufactured by outsourcing partners that are located primarily in Asia, with some Mac computers manufactured in the U.S. and Ireland.

Unconditional Purchase Obligations

The Company has entered into certain off–balance sheet commitments that require the future purchase of goods or services ("unconditional purchase obligations"). The Company's unconditional purchase obligations primarily consist of payments for supplier arrangements, Internet and telecommunication services, intellectual property licenses and content creation. Future payments under noncancelable unconditional purchase obligations having a remaining term in excess of one year as of September 26, 2020, are as follows (in millions):

2021	$ 3,476
2022	2,885
2023	1,700
2024	357
2025	104
Thereafter	130
Total	$ 8,652

Contingencies

The Company is subject to various legal proceedings and claims that have arisen in the ordinary course of business and that have not been fully resolved. The outcome of litigation is inherently uncertain. If one or more legal matters were resolved against the Company in a reporting period for amounts above management's expectations, the Company's financial condition and operating results for that reporting period could be materially adversely affected. In the opinion of management, there was not at least a reasonable possibility the Company may have incurred a material loss, or a material loss greater than a recorded accrual, concerning loss contingencies for asserted legal and other claims, except for the following matters:

VirnetX

VirnetX, Inc. ("VirnetX") filed a lawsuit against the Company alleging that certain of the Company's products infringe on patents owned by VirnetX. On April 11, 2018, a jury returned a verdict against the Company and awarded damages of $503 million. The Company appealed the verdict to the U.S. Court of Appeals for the Federal Circuit, which remanded the case back to the U.S. District Court for the Eastern District of Texas, where it is scheduled for a re-trial in October 2020. The Company has challenged the validity of the patents at issue in the re-trial at the U.S. Patent and Trademark Office (the "PTO"), and the PTO has declared the patents invalid, subject to further appeal by VirnetX.

iOS Performance Management Cases

Various civil litigation matters have been filed in state and federal courts in the U.S. and in various international jurisdictions alleging violation of consumer protection laws, fraud, computer intrusion and other causes of action related to the Company's performance management feature used in its iPhone operating systems, introduced to certain iPhones in iOS updates 10.2.1 and 11.2. The claims seek monetary damages and other non-monetary relief. On April 5, 2018, several U.S. federal actions were consolidated through a Multidistrict Litigation process into a single action in the U.S. District Court for the Northern District of California (the "Northern California District Court"). On February 28, 2020, the parties in the Multidistrict Litigation reached a settlement to resolve the U.S. federal and California state class actions. Under the terms of the settlement, which the Northern California District Court preliminarily approved in May 2020, the Company has agreed to pay up to $500 million in the aggregate to certain U.S. owners of iPhones if certain conditions are met. The final amount of the settlement will be determined based on the number of consumers who file valid claims and the attorneys' fee award. However, the Company has agreed to pay at least $310 million to settle the claims. In addition to civil litigation, the Company is also responding to governmental investigations and requests for information relating to the performance management feature. The Company continues to believe that its iPhones were not defective, that the performance management feature introduced with iOS updates 10.2.1 and 11.2 was intended to, and did, improve customers' user experience, and that the Company did not make any misleading statements or fail to disclose any material information. The Company has accrued its best estimate for the ultimate resolution of these matters.

French Competition Authority

On March 16, 2020, the French Competition Authority ("FCA") announced its decision that aspects of the Company's sales and distribution practices in France violate French competition law, and issued a fine of €1.1 billion. The Company strongly disagrees with the FCA's decision, and has appealed.

Optis

Optis Wireless Technology, LLC and related entities (“Optis”) filed a lawsuit in the U.S. District Court for the Eastern District of Texas against the Company alleging that certain of the Company’s products infringe on patents owned by Optis. On August 11, 2020, a jury returned a verdict against the Company and awarded damages of $506 million. The Company has asked the court to set aside the verdict, where the case remains pending.

Note 11 – Segment Information and Geographic Data

The Company reports segment information based on the “management” approach. The management approach designates the internal reporting used by management for making decisions and assessing performance as the source of the Company’s reportable segments.

The Company manages its business primarily on a geographic basis. The Company’s reportable segments consist of the Americas, Europe, Greater China, Japan and Rest of Asia Pacific. Americas includes both North and South America. Europe includes European countries, as well as India, the Middle East and Africa. Greater China includes China mainland, Hong Kong and Taiwan. Rest of Asia Pacific includes Australia and those Asian countries not included in the Company’s other reportable segments. Although the reportable segments provide similar hardware and software products and similar services, each one is managed separately to better align with the location of the Company’s customers and distribution partners and the unique market dynamics of each geographic region. The accounting policies of the various segments are the same as those described in Note 1, “Summary of Significant Accounting Policies.”

The Company evaluates the performance of its reportable segments based on net sales and operating income. Net sales for geographic segments are generally based on the location of customers and sales through the Company’s retail stores located in those geographic locations. Operating income for each segment includes net sales to third parties, related cost of sales and operating expenses directly attributable to the segment. Advertising expenses are generally included in the geographic segment in which the expenditures are incurred. Operating income for each segment excludes other income and expense and certain expenses managed outside the reportable segments. Costs excluded from segment operating income include various corporate expenses such as research and development, corporate marketing expenses, certain share-based compensation expenses, income taxes, various nonrecurring charges and other separately managed general and administrative costs. The Company does not include intercompany transfers between segments for management reporting purposes.

The following table shows information by reportable segment for 2020, 2019 and 2018 (in millions):

	2020	2019	2018
Americas:			
Net sales	$ 124,556	$ 116,914	$ 112,093
Operating income	$ 37,722	$ 35,099	$ 34,864
Europe:			
Net sales	$ 68,640	$ 60,288	$ 62,420
Operating income	$ 22,170	$ 19,195	$ 19,955
Greater China:			
Net sales	$ 40,308	$ 43,678	$ 51,942
Operating income	$ 15,261	$ 16,232	$ 19,742
Japan:			
Net sales	$ 21,418	$ 21,506	$ 21,733
Operating income	$ 9,279	$ 9,369	$ 9,500
Rest of Asia Pacific:			
Net sales	$ 19,593	$ 17,788	$ 17,407
Operating income	$ 6,808	$ 6,055	$ 6,181

A reconciliation of the Company's segment operating income to the Consolidated Statements of Operations for 2020, 2019 and 2018 is as follows (in millions):

	2020	2019	2018
Segment operating income	$ 91,240	$ 85,950	$ 90,242
Research and development expense	(18,752)	(16,217)	(14,236)
Other corporate expenses, net	(6,200)	(5,803)	(5,108)
Total operating income	$ 66,288	$ 63,930	$ 70,898

The U.S. and China were the only countries that accounted for more than 10% of the Company's net sales in 2020, 2019 and 2018. There was no single customer that accounted for more than 10% of net sales in 2020, 2019 and 2018. Net sales for 2020, 2019 and 2018 and long-lived assets as of September 26, 2020 and September 28, 2019 were as follows (in millions):

	2020	2019	2018
Net sales:			
U.S.	$ 109,197	$ 102,266	$ 98,061
China [1]	40,308	43,678	51,942
Other countries	125,010	114,230	115,592
Total net sales	$ 274,515	$ 260,174	$ 265,595

	2020	2019
Long-lived assets:		
U.S.	$ 25,890	$ 24,711
China [1]	7,256	9,064
Other countries	3,620	3,603
Total long-lived assets	$ 36,766	$ 37,378

(1) China includes Hong Kong and Taiwan. Long-lived assets located in China consist primarily of product tooling and manufacturing process equipment and assets related to retail stores and related infrastructure.

Note 12 – Leases

The Company has lease arrangements for certain equipment and facilities, including retail, corporate, manufacturing and data center space. These leases typically have original terms not exceeding 10 years and generally contain multi-year renewal options, some of which are reasonably certain of exercise. The Company's lease arrangements may contain both lease and non-lease components. The Company has elected to combine and account for lease and non-lease components as a single lease component for leases of retail, corporate, and data center facilities.

Payments under the Company's lease arrangements may be fixed or variable, and variable lease payments are primarily based on purchases of output of the underlying leased assets. Lease costs associated with fixed payments on the Company's operating leases were $1.5 billion for 2020. Lease costs associated with variable payments on the Company's leases were $9.3 billion for 2020. Rent expense for operating leases, as previously reported under former lease accounting standards, was $1.3 billion and $1.2 billion in 2019 and 2018, respectively.

For 2020, the Company made $1.5 billion of fixed cash payments related to operating leases. Non-cash activities involving ROU assets obtained in exchange for lease liabilities were $10.5 billion for 2020, including the impact of adopting the new leases standard in the first quarter of 2020.

The following table shows ROU assets and lease liabilities, and the associated financial statement line items, as of September 26, 2020 (in millions):

Lease-Related Assets and Liabilities	Financial Statement Line Items	2020
Right-of-use assets:		
Operating leases	Other non-current assets	$ 8,570
Finance leases	Property, plant and equipment, net	629
Total right-of-use assets		$ 9,199
Lease liabilities:		
Operating leases	Other current liabilities	$ 1,436
	Other non-current liabilities	7,745
Finance leases	Other current liabilities	24
	Other non-current liabilities	637
Total lease liabilities		$ 9,842

Lease liability maturities as of September 26, 2020, are as follows (in millions):

	Operating Leases	Finance Leases	Total
2021	$ 1,493	$ 43	$ 1,536
2022	1,461	43	1,504
2023	1,317	54	1,371
2024	1,068	30	1,098
2025	960	25	985
Thereafter	3,845	895	4,740
Total undiscounted liabilities	10,144	1,090	11,234
Less: Imputed interest	(963)	(429)	(1,392)
Total lease liabilities	$ 9,181	$ 661	$ 9,842

The weighted-average remaining lease term and discount rate related to the Company's lease liabilities as of September 26, 2020 were 10.3 years and 2.0%, respectively. The discount rates are generally based on estimates of the Company's incremental borrowing rate, as the discount rates implicit in the Company's leases cannot be readily determined.

As of September 26, 2020, the Company had $1.7 billion of future payments under additional leases, primarily for corporate facilities and retail space, that had not yet commenced. These leases will commence between 2021 and 2022, with lease terms ranging from 1 year to 20 years.

Note 13 – Selected Quarterly Financial Information (Unaudited)

The following tables show a summary of the Company's quarterly financial information for each of the four quarters of 2020 and 2019 (in millions, except per share amounts):

	Fourth Quarter	Third Quarter	Second Quarter	First Quarter
2020:				
Total net sales	$ 64,698	$ 59,685	$ 58,313	$ 91,819
Gross margin	$ 24,689	$ 22,680	$ 22,370	$ 35,217
Net income	$ 12,673	$ 11,253	$ 11,249	$ 22,236
Earnings per share [1]:				
Basic	$ 0.74	$ 0.65	$ 0.64	$ 1.26
Diluted	$ 0.73	$ 0.65	$ 0.64	$ 1.25

	Fourth Quarter	Third Quarter	Second Quarter	First Quarter
2019:				
Total net sales	$ 64,040	$ 53,809	$ 58,015	$ 84,310
Gross margin	$ 24,313	$ 20,227	$ 21,821	$ 32,031
Net income	$ 13,686	$ 10,044	$ 11,561	$ 19,965
Earnings per share [1]:				
Basic	$ 0.76	$ 0.55	$ 0.62	$ 1.05
Diluted	$ 0.76	$ 0.55	$ 0.61	$ 1.05

(1) Basic and diluted earnings per share are computed independently for each of the quarters presented. Therefore, the sum of quarterly basic and diluted per share information may not equal annual basic and diluted earnings per share.

Report of Independent Registered Public Accounting Firm

To the Shareholders and the Board of Directors of Apple Inc.

Opinion on the Financial Statements

We have audited the accompanying consolidated balance sheets of Apple Inc. as of September 26, 2020 and September 28, 2019, the related consolidated statements of operations, comprehensive income, shareholders' equity and cash flows for each of the three years in the period ended September 26, 2020, and the related notes (collectively referred to as the "financial statements"). In our opinion, the financial statements present fairly, in all material respects, the financial position of Apple Inc. at September 26, 2020 and September 28, 2019, and the results of its operations and its cash flows for each of the three years in the period ended September 26, 2020, in conformity with U.S. generally accepted accounting principles.

We also have audited, in accordance with the standards of the Public Company Accounting Oversight Board (United States) (the "PCAOB"), Apple Inc.'s internal control over financial reporting as of September 26, 2020, based on criteria established in *Internal Control – Integrated Framework* issued by the Committee of Sponsoring Organizations of the Treadway Commission (2013 framework) and our report dated October 29, 2020 expressed an unqualified opinion thereon.

Basis for Opinion

These financial statements are the responsibility of Apple Inc.'s management. Our responsibility is to express an opinion on Apple Inc.'s financial statements based on our audits. We are a public accounting firm registered with the PCAOB and are required to be independent with respect to Apple Inc. in accordance with the U.S. federal securities laws and the applicable rules and regulations of the U.S. Securities and Exchange Commission and the PCAOB.

We conducted our audits in accordance with the standards of the PCAOB. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the financial statements are free of material misstatement, whether due to error or fraud. Our audits included performing procedures to assess the risks of material misstatement of the financial statements, whether due to error or fraud, and performing procedures that respond to those risks. Such procedures included examining, on a test basis, evidence regarding the amounts and disclosures in the financial statements. Our audits also included evaluating the accounting principles used and significant estimates made by management, as well as evaluating the overall presentation of the financial statements. We believe that our audits provide a reasonable basis for our opinion.

Critical Audit Matter

The critical audit matter communicated below is a matter arising from the current period audit of the financial statements that was communicated or required to be communicated to the audit committee and that: (1) relates to accounts or disclosures that are material to the financial statements and (2) involved our especially challenging, subjective, or complex judgments. The communication of the critical audit matter does not alter in any way our opinion on the financial statements, taken as a whole, and we are not, by communicating the critical audit matter below, providing a separate opinion on the critical audit matter or on the account or disclosure to which it relates.

Uncertain Tax Positions

Description of the Matter

As discussed in Note 5 to the financial statements, Apple Inc. is subject to taxation and files income tax returns in the U.S. federal jurisdiction and many state and foreign jurisdictions. As of September 26, 2020, the total amount of gross unrecognized tax benefits was $16.5 billion, of which $8.8 billion, if recognized, would impact Apple Inc.'s effective tax rate. Apple Inc. uses significant judgment in the calculation of tax liabilities in estimating the impact of uncertainties in the application of technical merits and complex tax laws.

Auditing management's evaluation of whether an uncertain tax position is more likely than not to be sustained and the measurement of the benefit of various tax positions can be complex, involves significant judgment, and is based on interpretations of tax laws and legal rulings.

How We Addressed the Matter in Our Audit	We tested controls relating to the evaluation of uncertain tax positions, including controls over management's assessment as to whether tax positions are more likely than not to be sustained, management's process to measure the benefit of its tax positions, and the development of the related disclosures. To evaluate Apple Inc.'s assessment of which tax positions are more likely than not to be sustained, our audit procedures included, among others, reading and evaluating management's assumptions and analysis, and, as applicable, Apple Inc.'s communications with taxing authorities, that detailed the basis and technical merits of the uncertain tax positions. We involved our tax subject matter resources in assessing the technical merits of certain of Apple Inc.'s tax positions based on our knowledge of relevant tax laws and experience with related taxing authorities. For certain tax positions, we also received external legal counsel confirmation letters and discussed the matters with external advisors and Apple Inc. tax personnel. In addition, we evaluated Apple Inc.'s disclosure in relation to these matters included in Note 5 to the financial statements.

/s/ Ernst & Young LLP

We have served as Apple Inc.'s auditor since 2009.

San Jose, California
October 29, 2020

Report of Independent Registered Public Accounting Firm

To the Shareholders and the Board of Directors of Apple Inc.

Opinion on Internal Control Over Financial Reporting

We have audited Apple Inc.'s internal control over financial reporting as of September 26, 2020, based on criteria established in *Internal Control – Integrated Framework* issued by the Committee of Sponsoring Organizations of the Treadway Commission (2013 framework) (the "COSO criteria"). In our opinion, Apple Inc. maintained, in all material respects, effective internal control over financial reporting as of September 26, 2020, based on the COSO criteria.

We also have audited, in accordance with the standards of the Public Company Accounting Oversight Board (United States) (the "PCAOB"), the consolidated balance sheets of Apple Inc. as of September 26, 2020 and September 28, 2019, the related consolidated statements of operations, comprehensive income, shareholders' equity and cash flows for each of the three years in the period ended September 26, 2020, and the related notes and our report dated October 29, 2020 expressed an unqualified opinion thereon.

Basis for Opinion

Apple Inc.'s management is responsible for maintaining effective internal control over financial reporting, and for its assessment of the effectiveness of internal control over financial reporting included in the accompanying Management's Annual Report on Internal Control over Financial Reporting. Our responsibility is to express an opinion on Apple Inc.'s internal control over financial reporting based on our audit. We are a public accounting firm registered with the PCAOB and are required to be independent with respect to Apple Inc. in accordance with the U.S. federal securities laws and the applicable rules and regulations of the U.S. Securities and Exchange Commission and the PCAOB.

We conducted our audit in accordance with the standards of the PCAOB. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether effective internal control over financial reporting was maintained in all material respects.

Our audit included obtaining an understanding of internal control over financial reporting, assessing the risk that a material weakness exists, testing and evaluating the design and operating effectiveness of internal control based on the assessed risk, and performing such other procedures as we considered necessary in the circumstances. We believe that our audit provides a reasonable basis for our opinion.

Definition and Limitations of Internal Control Over Financial Reporting

A company's internal control over financial reporting is a process designed to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with U.S. generally accepted accounting principles. A company's internal control over financial reporting includes those policies and procedures that (1) pertain to the maintenance of records that, in reasonable detail, accurately and fairly reflect the transactions and dispositions of the assets of the company; (2) provide reasonable assurance that transactions are recorded as necessary to permit preparation of financial statements in accordance with U.S. generally accepted accounting principles, and that receipts and expenditures of the company are being made only in accordance with authorizations of management and directors of the company; and (3) provide reasonable assurance regarding prevention or timely detection of unauthorized acquisition, use, or disposition of the company's assets that could have a material effect on the financial statements.

Because of its inherent limitations, internal control over financial reporting may not prevent or detect misstatements. Also, projections of any evaluation of effectiveness to future periods are subject to the risk that controls may become inadequate because of changes in conditions, or that the degree of compliance with the policies or procedures may deteriorate.

/s/ Ernst & Young LLP

San Jose, California
October 29, 2020

Item 9. Changes in and Disagreements with Accountants on Accounting and Financial Disclosure

None.

Item 9A. Controls and Procedures

Evaluation of Disclosure Controls and Procedures

Based on an evaluation under the supervision and with the participation of the Company's management, the Company's principal executive officer and principal financial officer have concluded that the Company's disclosure controls and procedures as defined in Rules 13a-15(e) and 15d-15(e) under the Exchange Act were effective as of September 26, 2020 to provide reasonable assurance that information required to be disclosed by the Company in reports that it files or submits under the Exchange Act is (i) recorded, processed, summarized and reported within the time periods specified in the SEC rules and forms and (ii) accumulated and communicated to the Company's management, including its principal executive officer and principal financial officer, as appropriate to allow timely decisions regarding required disclosure.

Inherent Limitations over Internal Controls

The Company's internal control over financial reporting is designed to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with U.S. generally accepted accounting principles ("GAAP"). The Company's internal control over financial reporting includes those policies and procedures that:

(i) pertain to the maintenance of records that, in reasonable detail, accurately and fairly reflect the transactions and dispositions of the Company's assets;

(ii) provide reasonable assurance that transactions are recorded as necessary to permit preparation of financial statements in accordance with GAAP, and that the Company's receipts and expenditures are being made only in accordance with authorizations of the Company's management and directors; and

(iii) provide reasonable assurance regarding prevention or timely detection of unauthorized acquisition, use, or disposition of the Company's assets that could have a material effect on the financial statements.

Management, including the Company's Chief Executive Officer and Chief Financial Officer, does not expect that the Company's internal controls will prevent or detect all errors and all fraud. A control system, no matter how well designed and operated, can provide only reasonable, not absolute, assurance that the objectives of the control system are met. Further, the design of a control system must reflect the fact that there are resource constraints, and the benefits of controls must be considered relative to their costs. Because of the inherent limitations in all control systems, no evaluation of internal controls can provide absolute assurance that all control issues and instances of fraud, if any, have been detected. Also, any evaluation of the effectiveness of controls in future periods are subject to the risk that those internal controls may become inadequate because of changes in business conditions, or that the degree of compliance with the policies or procedures may deteriorate.

Management's Annual Report on Internal Control over Financial Reporting

The Company's management is responsible for establishing and maintaining adequate internal control over financial reporting (as defined in Rule 13a-15(f) under the Exchange Act). Management conducted an assessment of the effectiveness of the Company's internal control over financial reporting based on the criteria set forth in Internal Control – Integrated Framework issued by the Committee of Sponsoring Organizations of the Treadway Commission (2013 framework). Based on the Company's assessment, management has concluded that its internal control over financial reporting was effective as of September 26, 2020 to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements in accordance with GAAP. The Company's independent registered public accounting firm, Ernst & Young LLP, has issued an audit report on the Company's internal control over financial reporting, which appears in Part II, Item 8 of this Form 10-K.

Changes in Internal Control over Financial Reporting

There were no changes in the Company's internal control over financial reporting during the fourth quarter of 2020, which were identified in connection with management's evaluation required by paragraph (d) of Rules 13a-15 and 15d-15 under the Exchange Act, that have materially affected, or are reasonably likely to materially affect, the Company's internal control over financial reporting.

Item 9B. Other Information

None.

PART III

Item 10. Directors, Executive Officers and Corporate Governance

The information required by this Item is set forth under the headings “Corporate Governance,” “Directors,” “Executive Officers” and, if applicable, “Other Information—Security Ownership of Certain Beneficial Owners and Management” in the Company’s 2021 Proxy Statement to be filed with the SEC within 120 days after September 26, 2020 in connection with the solicitation of proxies for the Company’s 2021 annual meeting of shareholders, and is incorporated herein by reference.

Item 11. Executive Compensation

The information required by this Item is set forth under the heading “Executive Compensation,” under the subheadings “Board Oversight of Risk Management” and, if applicable, “Compensation Committee Interlocks and Insider Participation” under the heading “Corporate Governance” and under the subheadings “Compensation of Directors” and “Director Compensation—2020” under the heading “Directors” in the Company’s 2021 Proxy Statement to be filed with the SEC within 120 days after September 26, 2020, and is incorporated herein by reference.

Item 12. Security Ownership of Certain Beneficial Owners and Management and Related Stockholder Matters

The information required by this Item is set forth under the headings “Other Information—Security Ownership of Certain Beneficial Owners and Management” and “Other Information—Equity Compensation Plan Information” in the Company’s 2021 Proxy Statement to be filed with the SEC within 120 days after September 26, 2020, and is incorporated herein by reference.

Item 13. Certain Relationships and Related Transactions, and Director Independence

The information required by this Item is set forth under the subheadings “Role of the Board of Directors,” “Board Committees”, “Review, Approval, or Ratification of Transactions with Related Persons” and “Transactions with Related Persons” under the heading “Corporate Governance” in the Company’s 2021 Proxy Statement to be filed with the SEC within 120 days after September 26, 2020, and is incorporated herein by reference.

Item 14. Principal Accountant Fees and Services

The information required by this Item is set forth under the subheadings “Fees Paid to Auditors” and “Policy on Audit Committee Pre-Approval of Audit and Non-Audit Services Performed by the Independent Registered Public Accounting Firm” under the proposal “Ratification of Appointment of Independent Registered Public Accounting Firm” in the Company’s 2021 Proxy Statement to be filed with the SEC within 120 days after September 26, 2020, and is incorporated herein by reference.

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PART IV

Item 15. Exhibit and Financial Statement Schedules

(a) Documents filed as part of this report

(1) All financial statements

Index to Consolidated Financial Statements	Page
Consolidated Statements of Operations for the years ended September 26, 2020, September 28, 2019 and September 29, 2018	31
Consolidated Statements of Comprehensive Income for the years ended September 26, 2020, September 28, 2019 and September 29, 2018	32
Consolidated Balance Sheets as of September 26, 2020 and September 28, 2019	33
Consolidated Statements of Shareholders' Equity for the years ended September 26, 2020, September 28, 2019 and September 29, 2018	34
Consolidated Statements of Cash Flows for the years ended September 26, 2020, September 28, 2019 and September 29, 2018	35
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(2) Financial Statement Schedules

All financial statement schedules have been omitted, since the required information is not applicable or is not present in amounts sufficient to require submission of the schedule, or because the information required is included in the consolidated financial statements and accompanying notes included in this Form 10-K.

(3) Exhibits required by Item 601 of Regulation S-K [1]

		Incorporated by Reference		
Exhibit Number	Exhibit Description	Form	Exhibit	Filing Date/ Period End Date
3.1	Restated Articles of Incorporation of the Registrant filed on August 3, 2020.	8-K	3.1	8/7/20
3.2	Amended and Restated Bylaws of the Registrant effective as of December 13, 2016.	8-K	3.2	12/15/16
4.1**	Description of Securities of the Registrant.			
4.2	Indenture, dated as of April 29, 2013, between the Registrant and The Bank of New York Mellon Trust Company, N.A., as Trustee.	S-3	4.1	4/29/13
4.3	Officer's Certificate of the Registrant, dated as of May 3, 2013, including forms of global notes representing the Floating Rate Notes due 2016, Floating Rate Notes due 2018, 0.45% Notes due 2016, 1.00% Notes due 2018, 2.40% Notes due 2023 and 3.85% Notes due 2043.	8-K	4.1	5/3/13
4.4	Officer's Certificate of the Registrant, dated as of May 6, 2014, including forms of global notes representing the Floating Rate Notes due 2017, Floating Rate Notes due 2019, 1.05% Notes due 2017, 2.10% Notes due 2019, 2.85% Notes due 2021, 3.45% Notes due 2024 and 4.45% Notes due 2044.	8-K	4.1	5/6/14
4.5	Officer's Certificate of the Registrant, dated as of November 10, 2014, including forms of global notes representing the 1.000% Notes due 2022 and 1.625% Notes due 2026.	8-K	4.1	11/10/14
4.6	Officer's Certificate of the Registrant, dated as of February 9, 2015, including forms of global notes representing the Floating Rate Notes due 2020, 1.55% Notes due 2020, 2.15% Notes due 2022, 2.50% Notes due 2025 and 3.45% Notes due 2045.	8-K	4.1	2/9/15
4.7	Officer's Certificate of the Registrant, dated as of May 13, 2015, including forms of global notes representing the Floating Rate Notes due 2017, Floating Rate Notes due 2020, 0.900% Notes due 2017, 2.000% Notes due 2020, 2.700% Notes due 2022, 3.200% Notes due 2025, and 4.375% Notes due 2045.	8-K	4.1	5/13/15
4.8	Officer's Certificate of the Registrant, dated as of July 31, 2015, including forms of global notes representing the 3.05% Notes due 2029 and 3.60% Notes due 2042.	8-K	4.1	7/31/15

Exhibit Number	Exhibit Description	Incorporated by Reference		
		Form	Exhibit	Filing Date/ Period End Date
4.9	Officer's Certificate of the Registrant, dated as of September 17, 2015, including forms of global notes representing the 1.375% Notes due 2024 and 2.000% Notes due 2027.	8-K	4.1	9/17/15
4.10	Officer's Certificate of the Registrant, dated as of February 23, 2016, including forms of global notes representing the Floating Rate Notes due 2019, Floating Rate Notes due 2021, 1.300% Notes due 2018, 1.700% Notes due 2019, 2.250% Notes due 2021, 2.850% Notes due 2023, 3.250% Notes due 2026, 4.500% Notes due 2036 and 4.650% Notes due 2046.	8-K	4.1	2/23/16
4.11	Supplement No. 1 to the Officer's Certificate of the Registrant, dated as of March 24, 2016.	8-K	4.1	3/24/16
4.12	Officer's Certificate of the Registrant, dated as of August 4, 2016, including forms of global notes representing the Floating Rate Notes due 2019, 1.100% Notes due 2019, 1.550% Notes due 2021, 2.450% Notes due 2026 and 3.850% Notes due 2046.	8-K	4.1	8/4/16
4.13	Officer's Certificate of the Registrant, dated as of February 9, 2017, including forms of global notes representing the Floating Rate Notes due 2019, Floating Rate Notes due 2020, Floating Rate Notes due 2022, 1.550% Notes due 2019, 1.900% Notes due 2020, 2.500% Notes due 2022, 3.000% Notes due 2024, 3.350% Notes due 2027 and 4.250% Notes due 2047.	8-K	4.1	2/9/17
4.14	Officer's Certificate of the Registrant, dated as of May 11, 2017, including forms of global notes representing the Floating Rate Notes due 2020, Floating Rate Notes due 2022, 1.800% Notes due 2020, 2.300% Notes due 2022, 2.850% Notes due 2024 and 3.200% Notes due 2027.	8-K	4.1	5/11/17
4.15	Officer's Certificate of the Registrant, dated as of May 24, 2017, including forms of global notes representing the 0.875% Notes due 2025 and 1.375% Notes due 2029.	8-K	4.1	5/24/17
4.16	Officer's Certificate of the Registrant, dated as of June 20, 2017, including form of global note representing the 3.000% Notes due 2027.	8-K	4.1	6/20/17
4.17	Officer's Certificate of the Registrant, dated as of August 18, 2017, including form of global note representing the 2.513% Notes due 2024.	8-K	4.1	8/18/17
4.18	Officer's Certificate of the Registrant, dated as of September 12, 2017, including forms of global notes representing the 1.500% Notes due 2019, 2.100% Notes due 2022, 2.900% Notes due 2027 and 3.750% Notes due 2047.	8-K	4.1	9/12/17
4.19	Officer's Certificate of the Registrant, dated as of November 13, 2017, including forms of global notes representing the 1.800% Notes due 2019, 2.000% Notes due 2020, 2.400% Notes due 2023, 2.750% Notes due 2025, 3.000% Notes due 2027 and 3.750% Notes due 2047.	8-K	4.1	11/13/17
4.20	Indenture, dated as of November 5, 2018, between the Registrant and The Bank of New York Mellon Trust Company, N.A., as Trustee.	S-3	4.1	11/5/18
4.21	Officer's Certificate of the Registrant, dated as of September 11, 2019, including forms of global notes representing the 1.700% Notes due 2022, 1.800% Notes due 2024, 2.050% Notes due 2026, 2.200% Notes due 2029 and 2.950% Notes due 2049.	8-K	4.1	9/11/19
4.22	Officer's Certificate of the Registrant, dated as of November 15, 2019, including forms of global notes representing the 0.000% Notes due 2025 and 0.500% Notes due 2031.	8-K	4.1	11/15/19
4.23	Officer's Certificate of the Registrant, dated as of May 11, 2020, including forms of global notes representing the 0.750% Notes due 2023, 1.125% Notes due 2025, 1.650% Notes due 2030 and 2.650% Notes due 2050.	8-K	4.1	5/11/20
4.24	Officer's Certificate of the Registrant, dated as of August 20, 2020, including forms of global notes representing the 0.550% Notes due 2025, 1.25% Notes due 2030, 2.400% Notes due 2050 and 2.550% Notes due 2060.	8-K	4.1	8/20/20
4.25*	Apple Inc. Deferred Compensation Plan.	S-8	4.1	8/23/18
10.1*	Employee Stock Purchase Plan, as amended and restated as of March 10, 2015.	8-K	10.1	3/13/15
10.2*	Form of Indemnification Agreement between the Registrant and each director and executive officer of the Registrant.	10-Q	10.2	6/27/09
10.3*	Apple Inc. Non-Employee Director Stock Plan, as amended and restated as of February 13, 2018.	8-K	10.1	2/14/18
10.4*	2003 Employee Stock Plan, as amended through February 25, 2010.	8-K	10.1	3/1/10

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Exhibit Number	Exhibit Description	Incorporated by Reference		
		Form	Exhibit	Filing Date/ Period End Date
10.5*	Form of Restricted Stock Unit Award Agreement under 2003 Employee Stock Plan effective as of November 16, 2010.	10-Q	10.10	12/25/10
10.6*	2014 Employee Stock Plan, as amended and restated as of October 1, 2017.	10-K	10.8	9/30/17
10.7*	Form of Amendment, effective as of August 26, 2014, to Restricted Stock Unit Award Agreements and Performance Award Agreements outstanding as of August 26, 2014.	10-K	10.13	9/27/14
10.8*	Form of Restricted Stock Unit Award Agreement under 2014 Employee Stock Plan effective as of October 14, 2016.	10-K	10.18	9/24/16
10.9*	Form of Restricted Stock Unit Award Agreement under 2014 Employee Stock Plan effective as of September 26, 2017.	10-K	10.20	9/30/17
10.10*	Form of Performance Award Agreement under 2014 Employee Stock Plan effective as of September 26, 2017.	10-K	10.21	9/30/17
10.11*	Form of Restricted Stock Unit Award Agreement under Non-Employee Director Stock Plan effective as of February 13, 2018.	10-Q	10.2	3/31/18
10.12*	Form of Restricted Stock Unit Award Agreement under 2014 Employee Stock Plan effective as of August 21, 2018.	10-K	10.17	9/29/18
10.13*	Form of Performance Award Agreement under 2014 Employee Stock Plan effective as of August 21, 2018.	10-K	10.18	9/29/18
10.14*	Form of Restricted Stock Unit Award Agreement under 2014 Employee Stock Plan effective as of September 29, 2019.	10-K	10.15	9/28/19
10.15*	Form of Performance Award Agreement under 2014 Employee Stock Plan effective as of September 29, 2019.	10-K	10.16	9/28/19
10.16*, **	Form of Restricted Stock Unit Award Agreement under 2014 Employee Stock Plan effective as of August 18, 2020.			
10.17*, **	Form of Performance Award Agreement under 2014 Employee Stock Plan effective as of August 18, 2020.			
21.1**	Subsidiaries of the Registrant.			
23.1**	Consent of Independent Registered Public Accounting Firm.			
24.1**	Power of Attorney (included on the Signatures page of this Annual Report on Form 10-K).			
31.1**	Rule 13a-14(a) / 15d-14(a) Certification of Chief Executive Officer.			
31.2**	Rule 13a-14(a) / 15d-14(a) Certification of Chief Financial Officer.			
32.1***	Section 1350 Certifications of Chief Executive Officer and Chief Financial Officer.			
101**	Inline XBRL Document Set for the consolidated financial statements and accompanying notes in Part II, Item 8, “Financial Statements and Supplementary Data” of this Annual Report on Form 10-K.			
104**	Inline XBRL for the cover page of this Annual Report on Form 10-K, included in the Exhibit 101 Inline XBRL Document Set.			

* Indicates management contract or compensatory plan or arrangement.

** Filed herewith.

*** Furnished herewith.

(1) Certain instruments defining the rights of holders of long-term debt securities of the Registrant are omitted pursuant to Item 601(b)(4)(iii) of Regulation S-K. The Registrant hereby undertakes to furnish to the SEC, upon request, copies of any such instruments.

Item 16. Form 10-K Summary

None.

COEX-
8.36

SIGNATURES

Pursuant to the requirements of Section 13 or 15(d) of the Securities Exchange Act of 1934, the Registrant has duly caused this report to be signed on its behalf by the undersigned, thereunto duly authorized.

Date: October 29, 2020

Apple Inc.

By: /s/ Luca Maestri
Luca Maestri
Senior Vice President,
Chief Financial Officer

Power of Attorney

KNOW ALL PERSONS BY THESE PRESENTS, that each person whose signature appears below constitutes and appoints Timothy D. Cook and Luca Maestri, jointly and severally, his or her attorneys-in-fact, each with the power of substitution, for him or her in any and all capacities, to sign any amendments to this Annual Report on Form 10-K, and to file the same, with exhibits thereto and other documents in connection therewith, with the Securities and Exchange Commission, hereby ratifying and confirming all that each of said attorneys-in-fact, or his substitute or substitutes, may do or cause to be done by virtue hereof.

Pursuant to the requirements of the Securities Exchange Act of 1934, this report has been signed below by the following persons on behalf of the Registrant and in the capacities and on the dates indicated:

Name	Title	Date
/s/ Timothy D. Cook TIMOTHY D. COOK	Chief Executive Officer and Director (Principal Executive Officer)	October 29, 2020
/s/ Luca Maestri LUCA MAESTRI	Senior Vice President, Chief Financial Officer (Principal Financial Officer)	October 29, 2020
/s/ Chris Kondo CHRIS KONDO	Senior Director of Corporate Accounting (Principal Accounting Officer)	October 29, 2020
/s/ James A. Bell JAMES A. BELL	Director	October 29, 2020
/s/ Al Gore AL GORE	Director	October 29, 2020
/s/ Andrea Jung ANDREA JUNG	Director	October 29, 2020
/s/ Arthur D. Levinson ARTHUR D. LEVINSON	Director	October 29, 2020
/s/ Ronald D. Sugar RONALD D. SUGAR	Director	October 29, 2020
/s/ Susan L. Wagner SUSAN L. WAGNER	Director	October 29, 2020

Exhibit 4.1

**DESCRIPTION OF THE REGISTRANT'S SECURITIES
REGISTERED PURSUANT TO SECTION 12 OF THE
SECURITIES EXCHANGE ACT OF 1934**

As of September 26, 2020, Apple Inc. ("Apple" or the "Company") had eleven classes of securities registered under Section 12 of the Securities Exchange Act of 1934, as amended (the "Exchange Act"): (i) Common Stock**,** $0.00001 par value per share ("Common Stock"); (ii) 1.000% Notes due 2022 (the "2022 Notes"); (iii) 1.375% Notes due 2024 (the "2024 Notes"); (iv) 0.000% Notes due 2025 (the "0.000% 2025 Notes"); (v) 0.875% Notes due 2025 (the "0.875% 2025 Notes"); (vi) 1.625% Notes due 2026 (the "2026 Notes"); (vii) 2.000% Notes due 2027 (the "2027 Notes"); (viii) 1.375% Notes due 2029 (the "1.375% 2029 Notes"); (ix) 3.050% Notes due 2029 (the "3.050% 2029 Notes"); (x) 0.500% Notes due 2031 (the "2031 Notes"); and (xi) 3.600% Notes due 2042 (the "2042 Notes," and together with the 2022 Notes, the 2024 Notes, the 0.000% 2025 Notes, the 0.875% 2025 Notes, the 2026 Notes, the 2027 Notes, the 1.375% 2029 Notes, the 3.050% 2029 Notes, and the 2031 Notes, the "Notes"). Each of the Company's securities registered under Section 12 of the Exchange Act are listed on The Nasdaq Stock Market LLC.

DESCRIPTION OF COMMON STOCK

The following is a description of the rights of Common Stock and related provisions of the Company's Restated Articles of Incorporation (the "Articles") and Amended and Restated Bylaws (the "Bylaws") and applicable California law. This description is qualified in its entirety by, and should be read in conjunction with, the Articles, Bylaws and applicable California law.

Authorized Capital Stock

The Company's authorized capital stock consists of 50,400,000,000 shares of Common Stock.

Common Stock

Fully Paid and Nonassessable

All of the outstanding shares of the Company's Common Stock are fully paid and nonassessable.

Voting Rights

The holders of shares of Common Stock are entitled to one vote per share on all matters to be voted on by such holders. Holders of shares of Common Stock are not entitled to cumulative voting rights.

Except as described below or as required by law, all matters to be voted on by shareholders must be approved by the affirmative vote of (i) a majority of the shares present or represented by proxy and voting and (ii) a majority of the shares required to constitute a quorum.

In an election of directors where the number of nominees exceeds the number of directors to be elected, the candidates receiving the highest number of affirmative votes of the shares entitled to be voted for them up to the number of directors to be elected by such shares will be elected.

The Company's entire Board of Directors or any individual director may be removed without cause by an affirmative vote of a majority of the outstanding shares entitled to vote, subject to the provisions of the Company's Bylaws.

Vacancies created by the removal of a director must be filled only by approval of the shareholders, or by the unanimous written consent of all shares entitled to vote. The shareholders may elect a director at any time to fill a vacancy not filled by the directors, but any such election by written consent, other than to fill a vacancy created by removal, requires the consent of a majority of the outstanding shares entitled to vote thereon.

An amendment of the Bylaws or the Articles may be adopted by the vote of the majority of the outstanding shares entitled to vote. Any amendment of the Bylaws specifying or changing a fixed number of directors or the maximum or minimum number or changing from a fixed to a variable board or vice versa may only be adopted by the shareholders; provided, however, that an amendment of the Bylaws or the Articles reducing the fixed number or the minimum number of directors to less than five cannot be adopted if the votes cast against its adoption are equal to more than 16 2/3% of the outstanding shares entitled to vote.

Any shareholders' meeting may be adjourned from time to time by the vote of a majority of the shares present in person or represented by proxy.

Dividends

The holders of shares of Common Stock are entitled to receive such dividends, if any, as may be declared from time to time by the Company's Board of Directors in its discretion from funds legally available therefor.

Right to Receive Liquidation Distributions

Upon liquidation, dissolution or winding-up, the holders of shares of Common Stock are entitled to receive pro rata all assets remaining available for distribution to holders of such shares.

No Preemptive or Similar Rights

Common Stock has no preemptive or other subscription rights, and there are no conversion rights or redemption or sinking fund provisions with respect to such shares of Common Stock.

Anti-Takeover Provisions of the Articles, Bylaws and California Law

Provisions of the Articles and Bylaws may delay or discourage transactions involving an actual or potential change in control of the Company or change in its management, including transactions in which shareholders might otherwise receive a premium for their shares, or transactions that its shareholders might otherwise deem to be in their best interests. Among other things, the Articles and Bylaws:

- provide that, except for a vacancy caused by the removal of a director as provided in the Bylaws, a vacancy on the Company's Board of Directors may be filled by a person selected by a majority of the remaining directors then in office, whether or not less than a quorum, or by a sole remaining director;

- provide that shareholders seeking to present proposals before a meeting of shareholders or to nominate candidates for election as directors at a meeting of shareholders must provide notice in writing in a timely manner, and also specify requirements as to the form and content of a shareholder's notice;

- provide that a shareholder, or group of up to 20 shareholders, that has owned continuously for at least three years shares of Common Stock representing an aggregate of at least 3% of the Company's outstanding shares of Common Stock, may nominate and include in the Company's proxy materials director nominees constituting up to 20% of the Company's Board of Directors, provided that the shareholder(s) and nominee(s) satisfy the requirements in the Bylaws;

- do not provide for cumulative voting rights for the election of directors; and

- provide that special meetings of the shareholders may only be called by two or more members of the Board of Directors, the Chairman of the Board of Directors, the Chief Executive Officer or by one or more holders of shares entitled to cast not less than ten percent (10%) of the votes on the record date established pursuant to the Company's Bylaws.

In addition, as a California corporation, the Company is subject to the provisions of Section 1203 of the California General Corporation Law, which requires it to provide a fairness opinion to its shareholders in connection with their consideration of any proposed "interested party" reorganization transaction.

Listing

The Company's Common Stock is listed on The Nasdaq Stock Market LLC under the trading symbol "AAPL."

DESCRIPTION OF DEBT SECURITIES

The following description of the Notes is a summary and does not purport to be complete. This description is qualified in its entirety by reference, as applicable, to the Indenture, dated as of April 29, 2013, between Apple Inc. and The

Bank of New York Mellon Trust Company, N.A., as trustee (the "2013 Indenture") and the Indenture, dated as of November 5, 2018, between Apple Inc. and The Bank of New York Mellon Trust Company, N.A., as trustee (the "2018 Indenture," and together with the 2013 Indenture, the "Indentures"). References in this section to the "Company," "us," "we" and "our" are solely to Apple Inc. and not to any of its subsidiaries, unless the context requires otherwise.

The Notes

Each of the Notes were issued under the applicable Indenture, which provides that debt securities may be issued under such Indenture from time to time in one or more series. The Indentures and the Notes are governed by, and construed in accordance with, the laws of the State of New York. The Indentures do not limit the amount of debt securities that we may issue thereunder. We may, without the consent of the holders of the debt securities of any series, issue additional debt securities ranking equally with, and otherwise similar in all respects to, the debt securities of the series (except for the date of issuance, the date interest begins to accrue and, in certain circumstances, the first interest payment date) so that those additional debt securities will be consolidated and form a single series with the debt securities of the series previously offered and sold; provided, however, that any additional debt securities will have a separate ISIN number unless certain conditions are met.

The 2022 Notes

We issued €1,400,000,000 aggregate principal amount of the 2022 Notes on November 10, 2014. The maturity date of the 2022 Notes is November 10, 2022, and interest at a rate of 1.000% per annum is paid annually on November 10 of each year, beginning on November 10, 2015, and on the maturity date. As of October 16, 2020, €1,400,000,000 aggregate principal amount of the 2022 Notes was outstanding.

The 2024 Notes

We issued €1,000,000,000 aggregate principal amount of the 2024 Notes on September 17, 2015. The maturity date of the 2024 Notes is January 17, 2024, and interest at a rate of 1.375% per annum is paid annually on January 17 of each year, beginning on January 17, 2016, and on the maturity date. As of October 16, 2020, €1,000,000,000 aggregate principal amount of the 2024 Notes was outstanding.

The 0.000% 2025 Notes

We issued €1,000,000,000 aggregate principal amount of the 0.000% 2025 Notes on November 15, 2019. The maturity date of the 0.000% 2025 Notes is November 15, 2025, and interest at a rate of 0.000% per annum is paid annually on November 15 of each year, beginning on November 15, 2020, and on the maturity date. As of October 16, 2020, €1,000,000,000 aggregate principal amount of the 0.000% 2025 Notes was outstanding.

The 0.875% 2025 Notes

We issued €1,250,000,000 aggregate principal amount of the 0.875% 2025 Notes on May 24, 2017. The maturity date of the 0.875% 2025 Notes is May 24, 2025, and interest at a rate of 0.875% per annum is paid annually on May 24 of each year, beginning on May 24, 2018, and on the maturity date. As of October 16, 2020, €1,250,000,000 aggregate principal amount of the 0.875% 2025 Notes was outstanding.

The 2026 Notes

We issued €1,400,000,000 aggregate principal amount of the 2026 Notes on November 10, 2014. The maturity date of the 2026 Notes is November 10, 2026, and interest at a rate of 1.625% per annum is paid annually on November 10 of each year, beginning on November 10, 2015, and on the maturity date. As of October 16, 2020, €1,400,000,000 aggregate principal amount of the 2026 Notes was outstanding.

The 2027 Notes

We issued €1,000,000,000 aggregate principal amount of the 2027 Notes on September 17, 2015. The maturity date of the 2027 Notes is September 17, 2027, and interest at a rate of 2.000% per annum is paid annually on September 17 of each year, beginning on September 17, 2016, and on the maturity date. As of October 16, 2020, €1,000,000,000 aggregate principal amount of the 2027 Notes was outstanding.

The 1.375% 2029 Notes

We issued €1,250,000,000 aggregate principal amount of the 1.375% 2029 Notes on May 24, 2017. The maturity date of the 1.375% 2029 Notes is May 24, 2029, and interest at a rate of 1.375% per annum is paid annually on May 24 of each year, beginning on May 24, 2018, and on the maturity date. As of October 16, 2020, €1,250,000,000 aggregate principal amount of the 1.375% 2029 Notes was outstanding.

The 3.050% 2029 Notes

We issued £750,000,000 aggregate principal amount of the 3.050% 2029 Notes on July 31, 2015. The maturity date of the 3.050% 2029 Notes is July 31, 2029, and interest at a rate of 3.050% per annum is paid semi-annually on January 31 and July 31 of each year, beginning on January 31, 2016, and on the maturity date. As of October 16, 2020, £750,000,000 aggregate principal amount of the 3.050% 2029 Notes was outstanding.

The 2031 Notes

We issued €1,000,000,000 aggregate principal amount of the 2031 Notes on November 15, 2019. The maturity date of the 2031 Notes is November 15, 2031, and interest at a rate of 0.500% per annum is paid annually on November 15 of each year, beginning on November 15, 2020, and on the maturity date. As of October 16, 2020, €1,000,000,000 aggregate principal amount of the 2031 Notes was outstanding.

The 2042 Notes

We issued £500,000,000 aggregate principal amount of the 2042 Notes on July 31, 2015. The maturity date of the 2042 Notes is July 31, 2042, and interest at a rate of 3.600% per annum is paid semi-annually on January 31 and July 31 of each year, beginning on January 31, 2016, and on the maturity date. As of October 16, 2020, £500,000,000 aggregate principal amount of the 2042 Notes was outstanding.

Ranking

The Notes are our senior unsecured indebtedness and rank equally with each other and with all of our other senior unsecured and unsubordinated indebtedness from time to time outstanding. However, the Notes are structurally subordinated to any indebtedness and preferred stock, if any, of our subsidiaries and are effectively subordinated to any secured indebtedness to the extent of the value of the assets securing such indebtedness. Claims of the creditors of our subsidiaries generally have priority with respect to the assets and earnings of such subsidiaries over the claims of our creditors, including holders of the Notes. Accordingly, the Notes are effectively subordinated to creditors, including trade creditors and preferred stockholders, if any, of our subsidiaries. The Indentures do not restrict our ability or that of our subsidiaries to incur additional indebtedness.

Payment on the Notes

All payments of principal of, the redemption price (if any), and interest and additional amounts (if any) on the 2022 Notes, the 2024 Notes, the 0.000% 2025 Notes, the 0.875% 2025 Notes, the 2026 Notes, the 2027 Notes, the 1.375% 2029 Notes and the 2031 Notes are payable in euro, provided that, if the euro is unavailable to the Company due to the imposition of exchange controls or other circumstances beyond the Company's control, or if the euro is no longer being used by the then member states of the European Monetary Union that have adopted the euro as their currency or for the settlement of transactions by public institutions of or within the international banking community, then all payments in respect of the 2022 Notes, the 2024 Notes, the 0.000% 2025 Notes, the 0.875% 2025 Notes, the 2026 Notes, the 2027 Notes, the 1.375% 2029 Notes and the 2031 Notes will be made in U.S. dollars, until the euro is again available to the Company or so used. The amount payable on any date in euro will be converted into U.S. dollars at the rate mandated by the U.S. Federal Reserve Board as of the close of business on the second Business Day prior to the relevant payment date or, in the event the U.S. Federal Reserve Board has not mandated a rate of conversion, on the basis of the most recent U.S. dollar/euro exchange rate published in The Wall Street Journal on or prior to the second Business Day prior to the relevant payment date. Any payment in respect of the 2022 Notes, the 2024 Notes, the 0.000% 2025 Notes, the 0.875% 2025 Notes, the 2026 Notes, the 2027 Notes, the 1.375% 2029 Notes and the 2031 Notes so made in U.S. dollars will not constitute an event of default under such Notes or the applicable Indenture.

With respect to the 2022 Notes, the 2024 Notes, the 0.000% 2025 Notes, the 0.875% 2025 Notes, the 2026 Notes, the 2027 Notes, the 1.375% 2029 Notes and the 2031 Notes, "Business Day" means any day, other than a Saturday or Sunday, (1) which is not a day on which banking institutions in The City of New York or London are

authorized or required by law, regulation or executive order to close and (2) on which the Trans-European Automated Real-time Gross Settlement Express Transfer system (the TARGET2 system), or any successor thereto, is open.

All payments of principal of, the redemption price (if any), and interest and additional amounts (if any) on the 3.050% 2029 Notes and the 2042 Notes are payable in pounds sterling, or, if the United Kingdom adopts euro as its lawful currency, in euro. If pounds sterling or, in the event the Notes are redenominated into euro, euro is unavailable to the Company due to the imposition of exchange controls or other circumstances beyond the Company's control or, in the event the notes are redenominated into euro, the euro is no longer being used by the then member states of the European Monetary Union that have adopted the euro as their currency or for the settlement of transactions by public institutions of or within the international banking community, then all payments in respect of the 3.050% 2029 Notes and the 2042 Notes will be made in U.S. dollars until the pound sterling or euro, as the case may be, is again available to the Company or so used. The amount payable on any date in pounds sterling or, in the event such Notes are redenominated into euro, euro will be converted into U.S. dollars at the rate mandated by the U.S. Federal Reserve Board as of the close of business on the second Business Day prior to the relevant payment date or, in the event the U.S. Federal Reserve Board has not mandated a rate of conversion, on the basis of the most recent U.S. dollar/pounds sterling or, in the event the Notes are redenominated into euro, the most recent U.S. dollar/euro exchange rate published in The Wall Street Journal on or prior to the second Business Day prior to the relevant payment date. Any payment in respect of the 3.050% 2029 Notes and the 2042 Notes so made in U.S. dollars will not constitute an event of default under such Notes or the 2013 Indenture.

With respect to the 3.050% 2029 Notes and the 2042 Notes, "Business Day" means any day which is not a day on which banking institutions in The City of New York or London or the relevant place of payment are authorized or required by law, regulation or executive order to close.

Payment of Additional Amounts

The terms of the Notes state that all payments of principal and interest in respect of the Notes will be made free and clear of, and without deduction or withholding for or on account of any present or future taxes, duties, assessments or other governmental charges of whatsoever nature required to be deducted or withheld by the United States or any political subdivision or taxing authority of or in the United States, unless such withholding or deduction is required by law.

All of the Notes also contain a covenant substantially similar to the following:

The Company will, subject to the exceptions and limitations set forth below, pay as additional interest on the Notes such additional amounts ("Additional Amounts") as are necessary in order that the net payment by the Company or the paying agent of the Company for the applicable Notes ("Paying Agent") of the principal of and interest on the Notes to a holder who is not a United States person (as defined below), after withholding or deduction for any present or future tax, assessment or other governmental charge ("Tax") imposed by the United States or a taxing authority in the United States, will not be less than the amount provided in the Notes to be then due and payable; provided, however, that the foregoing obligation to pay Additional Amounts shall not apply:

(1) to any Tax that is imposed by reason of the holder (or the beneficial owner for whose benefit such holder holds the Notes), or a fiduciary, settlor, beneficiary, member or shareholder of the holder if the holder is an estate, trust, partnership or corporation, or a person holding a power over an estate or trust administered by a fiduciary holder, being considered as:

   (a) being or having been engaged in a trade or business in the United States or having or having had a permanent establishment in the United States;

   (b) having a current or former connection with the United States (other than a connection arising solely as a result of the ownership of the Notes, the receipt of any payment or the enforcement of any rights hereunder), including being or having been a citizen or resident of the United States;

   (c) being or having been a personal holding company, a passive foreign investment company or a controlled foreign corporation for U.S. federal income tax purposes or a corporation that has accumulated earnings to avoid U.S. federal income tax;

   (d) being or having been a "10-percent shareholder" of the Company as defined in Section 871(h)(3) of the Internal Revenue Code of 1986, as amended (the "Code");

(e) being a controlled foreign corporation that is related to the Company within the meaning of Section 864(d)(4) of the Code; or

(f) being a bank receiving payments on an extension of credit made pursuant to a loan agreement entered into in the ordinary course of its trade or business;

(2) to any holder that is not the sole beneficial owner of the Notes, or a portion of the Notes, or that is a fiduciary, partnership or limited liability company, but only to the extent that a beneficial owner with respect to the holder, a beneficiary or settlor with respect to the fiduciary, or a beneficial owner or member of the partnership or limited liability company would not have been entitled to the payment of an additional amount had the beneficiary, settlor, beneficial owner or member received directly its beneficial or distributive share of the payment;

(3) to any Tax that would not have been imposed but for the failure of the holder or any other person to comply with certification, identification or information reporting requirements concerning the nationality, residence, identity or connection with the United States of the holder or beneficial owner of the Notes, if compliance is required by statute, by regulation of the United States or any taxing authority therein or by an applicable income tax treaty to which the United States is a party as a precondition to exemption from such Tax (including, but not limited to, the requirement to provide Internal Revenue Service Forms W-8BEN, W-8BEN-E, W-8ECI, or any subsequent versions thereof or successor thereto, and any documentation requirement under an applicable income tax treaty);

(4) to any Tax that is imposed otherwise than by withholding by the Company or a Paying Agent from the payment;

(5) to any Tax that would not have been imposed but for a change in law, regulation, or administrative or judicial interpretation that becomes effective more than 10 days after the payment becomes due or is duly provided for, whichever occurs later;

(6) to any estate, inheritance, gift, sales, excise, transfer, wealth, capital gains or personal property or similar Tax;

(7) to any Tax required to be withheld by any paying agent from any payment of principal of or interest on any Note, if such payment can be made without such withholding by at least one other paying agent;

(8) to any Tax that would not have been imposed but for the presentation by the holder of any Note, where presentation is required, for payment on a date more than 30 days after the date on which payment became due and payable or the date on which payment thereof is duly provided for, whichever occurs later;

(9) to any Tax imposed under Sections 1471 through 1474 of the Code (or any amended or successor provisions), any current or future regulations or official interpretations thereof, any agreement entered into pursuant to Section 1471(b) of the Code, or any fiscal or regulatory legislation, rules or practices adopted pursuant to any intergovernmental agreement entered into in connection with the implementation of such sections of the Code; or

(10) in the case of any combination of items (1) through (9) above.

The Notes are subject in all cases to any tax, fiscal or other law or regulation or administrative or judicial interpretation applicable to the Notes. Except as specifically provided under this heading "—Payment of Additional Amounts," the Company will not be required to make any payment for any Tax imposed by any government or a political subdivision or taxing authority of or in any government or political subdivision. As used under "—Payment of Additional Amounts" and under "—Redemption for Tax Reasons," the term "United States" means the United States of America (including the states and the District of Columbia and any political subdivision thereof), and the term "United States person" means any individual who is a citizen or resident of the United States for U.S. federal income tax purposes, a corporation, partnership or other entity created or organized in or under the laws of the United States, any state of the United States or the District of Columbia (other than a partnership that is not treated as a United States person under any applicable Treasury regulations), or any estate or trust the income of which is subject to U.S. federal income taxation regardless of its source.

Redemption for Tax Reasons

If, as a result of any change in, or amendment to, or, in the case of the 0.000% 2025 Notes and the 2031 Notes, introduction of, the laws (or any regulations or rulings promulgated under the laws) of the United States (or any political subdivision or taxing authority of or in the United States), or any change in, or amendments to, an official position regarding the application or interpretation of such laws, regulations or rulings, which change or amendment is announced or becomes effective on or after the date of the applicable prospectus supplement, we become, or based upon a written opinion of independent counsel selected by us, will become obligated to pay additional amounts as described above under the heading "Payments of Additional Amounts" with respect to a series of the Notes, then we may at our option redeem, in whole, but not in part, in the case of the 2022 Notes, the 2024 Notes, the 2026 Notes, the 2027 Notes, the 3.050% 2029 Notes and the 2042 Notes, the Notes of such series on not less than 30 nor more than 60 days' prior notice, in the case of the 0.875% 2025 Notes and the 1.375% 2029 Notes, the Notes of such series on not less than 15 nor more than 60 days' notice, and in the case of the 0.000% 2025 Notes and the 2031 Notes, the Notes of such series on not less than 10 nor more than 60 days' prior notice, in each case at a redemption price equal to 100% of their principal amount, together with interest accrued but unpaid on those Notes to (and, in the case of the 0.000% 2025 Notes and the 2031 Notes, but not including) the date fixed for redemption.

Optional Redemption

We may redeem the 2022 Notes, the 2024 Notes, the 2026 Notes, the 2027 Notes, the 3.050% 2029 Notes and the 2042 Notes at our option, at any time in whole or from time to time in part, at a redemption price equal to the greater of:

- 100% of the principal amount of the Notes to be redeemed; or
- the sum of the present values of the remaining scheduled payments of principal and interest thereon (not including any portion of such payments of interest accrued as of the date of redemption), discounted to the date of redemption on an annual basis (ACTUAL/ACTUAL (ICMA)) at the applicable Comparable Government Bond Rate (as defined below), plus 5 basis points in the case of the 2022 Notes, plus 10 basis points in the case of the 2026 Notes, plus 15 basis points in the case of the 2024 Notes, the 3.050% 2029 Notes and the 2042 Notes and plus 20 basis points in the case of the 2027 Notes.

We may redeem the 0.000% 2025 Notes, the 0.875% 2025 Notes, the 1.375% 2029 Notes and the 2031 Notes at our option, at any time in whole or from time to time in part, prior to the applicable Par Call Date at a redemption price equal to the greater of:

- 100% of the principal amount of the Notes to be redeemed; or
- the sum of the present values of the remaining scheduled payments of principal and interest thereon assuming that the Notes matured on the applicable Par Call Date (not including any portion of such payments of interest accrued as of the date of redemption), discounted to the date of redemption on an annual basis (ACTUAL/ACTUAL (ICMA)) at the applicable Comparable Government Bond Rate (as defined below), plus 10 basis points in the case of the 0.000% 2025 Notes, plus 15 basis points in the case of the 0.875% 2025 Notes and the 2031 Notes, and 20 basis points in the case of the 2029 Notes.

"Par Call Date" means (i) with respect to the 0.000% 2025 Notes, August 15, 2025 (three months prior to the maturity date of the 0.000% 2025 Notes), (ii) with respect to the 0.875% 2025 Notes, February 24, 2025 (three months prior to the maturity date of the 0.875% 2025 Notes), (iii) with respect to the 1.375% 2029 Notes, February 24, 2029 (three months prior to the maturity date of 1.375% 2029 Notes) and (iv) with respect to the 2031 Notes, August 15, 2031 (three months prior to the maturity of the 2031 Notes).

If any of the 0.000% 2025 Notes, the 0.875% 2025 Notes, the 1.375% 2029 Notes or the 2031 Notes are redeemed on or after the applicable Par Call Date, the redemption price for such Notes will equal 100% of the principal amount of the Notes being redeemed.

In each case upon redemption of the Notes, we will pay accrued and unpaid interest on the principal amount being redeemed to, but excluding, the date of redemption.

Installments of interest on Notes being redeemed that are due and payable on interest payment dates falling on or prior to a redemption date shall be payable on the interest payment date to the holders as of the close of business on the relevant regular record date according to the Notes and the applicable Indenture.

“Comparable Government Bond” means, in relation to any Comparable Government Bond Rate calculation for the 2022 Notes, the 2024 Notes, the 2026 Notes and the 2027 Notes, at the discretion of an independent investment bank selected by us, a German government bond whose maturity is closest to the maturity of the Notes being redeemed, or if such independent investment bank in its discretion determines that such similar bond is not in issue, such other German government bond as such independent investment bank may, with the advice of three brokers of, and/or market makers in, German government bonds selected by us, determine to be appropriate for determining the Comparable Government Bond Rate.

“Comparable Government Bond” means, in relation to any Comparable Government Bond Rate calculation for the 3.050% 2029 Notes and the 2042 Notes, at the discretion of an independent investment bank selected by us, a United Kingdom government bond whose maturity is closest to the maturity of the Notes being redeemed, or if such independent investment bank in its discretion determines that such similar bond is not in issue, such other United Kingdom government bond as such independent investment bank may, with the advice of three brokers of, and/or market makers in, United Kingdom government bonds selected by us, determine to be appropriate for determining the Comparable Government Bond Rate.

“Comparable Government Bond” means, in relation to any Comparable Government Bond Rate calculation for the 0.000% 2025 Notes, the 0.875% 2025 Notes, the 1.375% 2029 Notes and the 2031 Notes, at the discretion of an independent investment bank selected by us, a German government bond whose maturity is closest to the applicable Par Call Date of the Notes being redeemed, or if such independent investment bank in its discretion determines that such similar bond is not in issue, such other German government bond as such independent investment bank may, with the advice of three brokers of, and/or market makers in, German government bonds selected by us, determine to be appropriate for determining the Comparable Government Bond Rate.

“Comparable Government Bond Rate” means the price, expressed as a percentage (rounded to three decimal places, with 0.0005 being rounded upwards), at which the gross redemption yield on the Notes, if they were to be purchased at such price on the third business day prior to the date fixed for redemption, would be equal to the gross redemption yield on such business day of the Comparable Government Bond on the basis of the middle market price of the Comparable Government Bond prevailing at 11:00 a.m. (London time) on such business day as determined by an independent investment bank selected by us.

Covenants

The Indentures set forth limited covenants that apply to the Notes. However, these covenants do not, among other things:

- limit the amount of indebtedness or lease obligations that may be incurred by us and our subsidiaries;
- limit our ability or that of our subsidiaries to issue, assume or guarantee debt secured by liens; or
- restrict us from paying dividends or making distributions on our capital stock or purchasing or redeeming our capital stock.

Consolidation, Merger and Sale of Assets

The Indentures provide that we may consolidate with or merge with or into any other person, and may sell, transfer, or lease or convey all or substantially all of our properties and assets to another person; provided that the following conditions are satisfied:

- we are the continuing entity, or the resulting, surviving or transferee person (the “Successor”) is a person (if such person is not a corporation, then the Successor will include a corporate co-issuer of the debt securities) organized and existing under the laws of the United States of America, any state thereof or the District of Columbia and the Successor (if not us) will expressly assume, by supplemental indenture, all of our obligations under the debt securities and the applicable Indenture and, for each security that by its terms provides for conversion, provide for the right to convert such security in accordance with its terms;

- immediately after giving effect to such transaction, no default or event of default under the applicable Indenture has occurred and is continuing; and

- in the case of the 2013 Indenture, the trustee receives from us an officers' certificate and an opinion of counsel that the transaction and such supplemental indenture, as the case may be, complies with the applicable provisions of the 2013 Indenture.

If we consolidate or merge with or into any other person or sell, transfer, lease or convey all or substantially all of our properties and assets in accordance with the Indentures, the Successor will be substituted for us in the Indentures, with the same effect as if it had been an original party to the Indentures. As a result, the Successor may exercise our rights and powers under the Indentures, and we will be released from all our liabilities and obligations under the Indentures and under the debt securities.

For purposes of this covenant, "person" means any individual, corporation, partnership, limited liability company, joint venture, association, joint-stock company, trust, unincorporated organization or government or any agency or political subdivision thereof or any other entity.

Events of Default

Each of the following events are defined in the Indentures as an "event of default" (whatever the reason for such event of default and whether or not it will be voluntary or involuntary or be effected by operation of law or pursuant to any judgment, decree or order of any court or any order, rule or regulation of any administrative or governmental body) with respect to the debt securities of any series:

(1) default in the payment of any installment of interest on any debt securities of such series for 30 days after becoming due;

(2) default in the payment of principal of or premium, if any, on any debt securities of such series when it becomes due and payable at its stated maturity, upon optional redemption, upon declaration or otherwise;

(3) default in the performance, or breach, of any covenant or agreement of ours in the applicable Indenture with respect to the debt securities of such series (other than a covenant or agreement, a default in the performance of which or a breach of which is elsewhere in the applicable Indenture specifically dealt with or that has expressly been included in the applicable Indenture solely for the benefit of a series of debt securities other than such series), which continues for a period of 90 days after written notice to us by the trustee or to us and the trustee by the holders of, in the case of the 2013 Indenture, at least 25% in aggregate principal amount of the outstanding debt securities of that series, and in the case of the 2018 Indenture, at least 33% in aggregate principal amount of the outstanding debt securities of that series;

(4) we, pursuant to or within the meaning of the Bankruptcy Law:

- commence a voluntary case or proceeding;

- consent to the entry of an order for relief against us in an involuntary case or proceeding;

- consent to the appointment of a custodian of us or for all or substantially all of our property;

- make a general assignment for the benefit of our creditors;

- file a petition in bankruptcy or answer or consent seeking reorganization or relief;

- consent to the filing of such petition or the appointment of or taking possession by a custodian; or

- take any comparable action under any foreign laws relating to insolvency;

(5) a court of competent jurisdiction enters an order or decree under any Bankruptcy Law that:

- is for relief against us in an involuntary case, or adjudicates us insolvent or bankrupt;
- appoints a custodian of us or for all or substantially all of our property; or
- orders the winding-up or liquidation of us (or any similar relief is granted under any foreign laws);

and the order or decree remains unstayed and in effect for 90 days (or, in the case of the 2018 Indenture, 90 consecutive days); or

(6) any other event of default provided with respect to debt securities of such series occurs.

"Bankruptcy Law" means Title 11, United States Code or any similar federal or state or foreign law for the relief of debtors. "Custodian" means any custodian, receiver, trustee, assignee, liquidator or other similar official under any Bankruptcy Law.

If an event of default with respect to debt securities of any series (other than an event of default relating to certain events of bankruptcy, insolvency, or reorganization of us) occurs and is continuing, the trustee by notice to us, or the holders of, in the case of the 2013 Indenture, at least 25% in aggregate principal amount of the outstanding debt securities of such series, and in the case of the 2018 Indenture, at least 33% in aggregate principal amount of the outstanding debt securities of such series, by notice to us and the trustee, may, and the trustee at the request of these holders will, declare the principal of and premium, if any, and accrued and unpaid interest on all the debt securities of such series to be due and payable. Upon such a declaration, such principal, premium and accrued and unpaid interest will be due and payable immediately. If an event of default relating to certain events of bankruptcy, insolvency, or reorganization of us occurs and is continuing, the principal of and premium, if any, and accrued and unpaid interest on the debt securities of such series will become and be immediately due and payable without any declaration or other act on the part of the trustee or any holders.

The holders of not less than a majority in aggregate principal amount of the outstanding debt securities of any series may rescind a declaration of acceleration and its consequences, if we have deposited certain sums with the trustee and all events of default with respect to the debt securities of such series, other than the non-payment of the principal or interest which have become due solely by such acceleration, have been cured or waived, as provided in the Indentures.

An event of default for a particular series of debt securities does not necessarily constitute an event of default for any other series of debt securities issued under the Indentures.

We are required to furnish the trustee annually within 120 days after the end of our fiscal year a statement by one of our officers to the effect that, to the best knowledge of such officer, we are not in default in the fulfillment of any of our obligations under the applicable Indenture or, if there has been a default in the fulfillment of any such obligation, specifying each such default and the nature and status thereof.

No holder of any debt securities of any series will have any right to institute any judicial or other proceeding with respect to the applicable Indenture, or for the appointment of a receiver or trustee, or for any other remedy unless:

(1) an event of default has occurred and is continuing and such holder has given the trustee prior written notice of such continuing event of default with respect to the debt securities of such series;

(2) in the case of the 2013 Indenture, the holders of not less than 25% of the aggregate principal amount of the outstanding debt securities of such series, and in the case of the 2018 Indenture, the holders of not less than 33% of the aggregate principal amount of the outstanding debt securities of such series have requested the trustee to institute proceedings in respect of such event of default;

(3) the trustee has been offered indemnity reasonably satisfactory to it against its costs, expenses and liabilities in complying with such request;

(4) the trustee has failed to institute proceedings 60 days after the receipt of such notice, request and offer of indemnity; and

(5) no direction inconsistent with such written request has been given for 60 days by the holders of a majority in aggregate principal amount of the outstanding debt securities of such series.

The holders of a majority in aggregate principal amount of outstanding debt securities of a series will have the right, subject to certain limitations, to direct the time, method and place of conducting any proceeding for any remedy available to the trustee with respect to the debt securities of that series or exercising any trust or power conferred to the trustee, and to waive certain defaults. Each of the Indentures provides that if an event of default occurs and is continuing, the trustee will exercise such of its rights and powers under such Indenture, and use the same degree of care and skill in their exercise, as a prudent person would exercise or use under the circumstances in the conduct of such person's own affairs. Subject to such provisions, the trustee will be under no obligation to exercise any of its rights or powers under the applicable Indenture at the request of any of the holders of the debt securities of a series unless they will have offered to the trustee security or indemnity satisfactory to the trustee against the costs, expenses and liabilities which might be incurred by it in compliance with such request.

Notwithstanding the foregoing, the holder of any debt security will have an absolute and unconditional right to receive payment of the principal of and premium, if any, and interest on that debt security on or after the due dates expressed in that debt security and to institute suit for the enforcement of payment.

Modification and Waivers

Modification and amendments of the Indentures and the Notes may be made by us and the trustee with the consent of the holders of not less than a majority in aggregate principal amount of the outstanding series of Notes affected thereby; provided, however, that no such modification or amendment may, without the consent of the holder of each outstanding Note of that series affected thereby:

- change the stated maturity of the principal of, or installment of interest on, any Note;
- reduce the principal amount of any Note or reduce the amount of the principal of any Note which would be due and payable upon a declaration of acceleration of the maturity thereof or reduce the rate of interest on any Note;
- reduce any premium payable on the redemption of any Note or change the date on which any Note may or must be redeemed (in the case of the 2018 Indenture, it being understood that a change to any notice requirement with respect to such date shall not be deemed to be a change of such date);
- change the coin or currency in which the principal of, premium, if any, or interest on any Note is payable;
- impair the right of any holder to institute suit for the enforcement of any payment on or after the stated maturity of any Note (or, in the case of redemption, on or after the redemption date);
- reduce the percentage in principal amount of the outstanding Notes, the consent of whose holders is required in order to take certain actions;
- reduce the requirements for quorum or voting by holders of Notes in the applicable Indenture or the Note;
- modify any of the provisions in the applicable Indenture regarding the waiver of past defaults and the waiver of certain covenants by the holders of Notes except to increase any percentage vote required or to provide that certain other provisions of the applicable Indenture cannot be modified or waived without the consent of the holder of each Notes affected thereby;
- make any change that adversely affects the right to convert or exchange any debt security or decreases the conversion or exchange rate or increases the conversion price of any convertible or exchangeable debt security, unless such decrease or increase is permitted by the terms of the debt securities; or
- modify any of the above provisions.

We and the trustee may, without the consent of any holders, modify or amend the terms of the Indentures and any series of Notes with respect to the following:

- to add to our covenants for the benefit of holders of all or any series of the Notes or to surrender any right or power conferred upon us;
- to evidence the succession of another person to, and the assumption by the successor of our covenants, agreements and obligations under, the applicable Indenture pursuant to the covenant described above under the caption “Covenants—Consolidation, Merger and Sale of Assets”;
- to add any additional events of default for the benefit of holders of all or any series of the Notes;
- to add one or more guarantees, and in the case of the 2018 Indenture, co-obligors, for the benefit of holders of the Notes;
- to secure the Notes pursuant to the covenants of the Indenture;
- to add or appoint a successor or separate trustee or other agent;
- to provide for the issuance of additional debt securities of any series;
- to establish the form or terms of the debt securities of any series as permitted by the Indenture;
- to comply with the rules of any applicable securities depository;
- to provide for uncertificated Notes in addition to or in place of certificated Notes;
- in the case of the 2013 Indenture, to add to, change or eliminate any of the provisions of the 2013 Indenture in respect of one or more series of debt securities; provided that any such addition, change or elimination (a) shall neither (1) apply to any debt security of any series created prior to the execution of such supplemental indenture and entitled to the benefit of such provision nor (2) modify the rights of the holder of any such debt security with respect to such provision or (b) shall become effective only when there is no debt security described in clause (a)(1) outstanding;
- in the case of the 2018 Indenture, to add to, change or eliminate any of the provisions of the 2018 Indenture in respect of one or more series of debt securities; provided that any such addition, change or elimination shall become effective only when there is no outstanding security of any series created prior to the execution of such supplemental indenture that is entitled to the benefit of such provision and as to which such supplemental indenture would apply;
- to cure any ambiguity, omission, defect or inconsistency;
- to change any other provision; provided that the change does not adversely affect the interests of the holders of debt securities of, in the case of the 2013 Indenture any series, and in the case of the 2018 Indenture, any outstanding series, in any material respect;
- to supplement any of the provisions of the applicable Indenture to such extent as shall be necessary to permit or facilitate the defeasance and discharge of any series of Notes pursuant to the Indenture; provided that any such action shall not adversely affect the interests of the holders of Notes of such series or any other series of debt securities in any material respect;
- to comply with the rules or regulations of any securities exchange or automated quotation system on which any of the Notes may be listed or traded; and
- to add to, change or eliminate any of the provisions of the applicable Indenture as shall be necessary or desirable in accordance with any amendments to the Trust Indenture Act of 1939, as amended, and in the case of the 2013 Indenture, provided that such action does not adversely affect the rights or interests of any holder of debt securities in any material respect.

The holders of at least a majority in aggregate principal amount of the outstanding Notes of any series may, on behalf of the holders of all Notes of that series, waive compliance by us with certain restrictive provisions of the Indentures. The holders of not less than a majority in aggregate principal amount of the outstanding Notes of a series

may, on behalf of the holders of all Notes of that series, waive any past default and its consequences under the applicable Indenture with respect to the Notes of that series, except a default (1) in the payment of principal or premium, if any, or interest on Notes of that series or (2) in respect of a covenant or provision of the applicable Indenture that cannot be modified or amended without the consent of the holder of each Note of that series. Upon any such waiver, such default will cease to exist, and any event of default arising therefrom will be deemed to have been cured, for every purpose of the Indenture; however, no such waiver will extend to any subsequent or other default or event of default or impair any rights consequent thereon.

Discharge, Defeasance and Covenant Defeasance

We may discharge certain obligations to holders of the Notes of a series that have not already been delivered to the trustee for cancellation and that either have become due and payable or will become due and payable within one year (or scheduled for redemption within one year) by depositing with the trustee, in trust, funds in U.S. dollars in an amount sufficient to pay the entire indebtedness including, but not limited to, the principal and premium, if any, and interest to the date of such deposit (if due and payable) or to the maturity thereof or the redemption date of the Notes of that series, as the case may be. We may direct the trustee to invest such funds in U.S. Treasury securities with a maturity of one year or less or in a money market fund that invests solely in short-term U.S. Treasury securities.

The Indentures provide that we may elect either (1) to defease and be discharged from any and all obligations with respect to the Notes of a series (except for, among other things, obligations to register the transfer or exchange of the Notes, to replace temporary or mutilated, destroyed, lost or stolen Notes, to maintain an office or agency with respect to the Notes and to hold moneys for payment in trust) ("legal defeasance") or (2) to be released from our obligations to comply with the restrictive covenants under the applicable Indenture, and any omission to comply with such obligations will not constitute a default or an event of default with respect to the Notes of a series and clauses (3) and (6) under the caption "Events of Default" above will no longer be applied ("covenant defeasance"). Legal defeasance or covenant defeasance, as the case may be, will be conditioned upon, among other things, the irrevocable deposit by us with the trustee, in trust, of an amount in U.S. dollars, or U.S. government obligations (as such term is modified below), or both, applicable to the Notes of that series which through the scheduled payment of principal and interest in accordance with their terms will provide money in an amount sufficient to pay the principal or premium, if any, and interest on the Notes on the scheduled due dates therefor.

If we effect covenant defeasance with respect to the Notes of any series, the amount in U.S. dollars, or U.S. government obligations (as such term is modified below), or both, on deposit with the trustee will be sufficient, in the opinion of a nationally recognized firm of independent accountants, to pay amounts due on the Notes of that series at the time of the stated maturity but may not be sufficient to pay amounts due on the Notes of that series at the time of the acceleration resulting from such event of default. However, we would remain liable to make payment of such amounts due at the time of acceleration.

With respect to the 2022 Notes, the 2024 Notes, the 0.000% 2025 Notes, the 0.875% 2025 Notes, the 2026 Notes, the 2027 Notes, the 1.375% 2029 Notes and the 2031 Notes, the term "U.S. government obligations" shall instead mean (x) any security that is (i) a direct obligation of the German government or (ii) an obligation of a person controlled or supervised by and acting as an agency or instrumentality of the German government the payment of which is fully and unconditionally guaranteed by the German government or the central bank of the German government, which, in either case (x)(i) or (ii), is not callable or redeemable at the option of the issuer thereof, and (y) certificates, depositary receipts or other instruments which evidence a direct ownership interest in obligations described in clause (x)(i) or (x)(ii) above or in any specific principal or interest payments due in respect thereof.

With respect to the 3.050% 2029 Notes and the 2042 Notes, the term "U.S. government obligations" shall instead mean (x) any security that is (i) a direct obligation of the United Kingdom government or (ii) an obligation of a person controlled or supervised by and acting as an agency or instrumentality of the United Kingdom government the payment of which is fully and unconditionally guaranteed by the United Kingdom government or the central bank of the United Kingdom government, which, in either case (x)(i) or (ii), is not callable or redeemable at the option of the issuer thereof, and (y) certificates, depositary receipts or other instruments which evidence a direct ownership interest in obligations described in clause (x)(i) or (x)(ii) above or in any specific principal or interest payments due in respect thereof.

We will be required to deliver to the trustee an opinion of counsel that the deposit and related defeasance will not cause the holders and beneficial owners of the Notes of that series to recognize income, gain or loss for

federal income tax purposes. If we elect legal defeasance, that opinion of counsel must be based upon a ruling from the U.S. Internal Revenue Service or a change in law to that effect.

We may exercise our legal defeasance option notwithstanding our prior exercise of our covenant defeasance option.

Book-Entry and Settlement

The Notes were issued in book-entry form and are represented by global notes deposited with, or on behalf of, a common depositary on behalf of Euroclear and Clearstream, and are registered in the name of the common depositary or its nominee. Except as described herein, certificated notes will not be issued in exchange for beneficial interests in the global notes.

Certificated Notes

Subject to certain conditions, the Notes represented by the global notes are exchangeable for certificated notes in definitive form of like tenor, in minimum denominations of €100,000 principal amount and integral multiples of €1,000 in excess thereof in the case of the 2022 Notes, the 2024 Notes, the 0.000% 2025 Notes, the 0.875% 2025 Notes, the 2026 Notes, the 2027 Notes, the 1.375% 2029 Notes and the 2031 Notes, and in minimum denominations of £100,000 principal amount and integral multiples of £1,000 in excess thereof in the case of the 3.050% 2029 Notes and the 2042 Notes, if:

1. the common depositary notifies us that it is unwilling or unable to continue as depositary or if the common depositary ceases to be eligible under the applicable Indenture and we do not appoint a successor depository within 90 days;

2. we determine that the Notes will no longer be represented by global securities and execute and deliver to the trustee an order to that effect; or

3. an event of default with respect to the Notes will have occurred and be continuing.

Any Note that is exchangeable as above is exchangeable for certificated notes issuable in authorized denominations and registered in such names as the common depositary shall direct. Subject to the foregoing, a global note is not exchangeable, except for a global note of the same aggregate denomination to be registered in the name of the common depositary or its nominee.

The Trustee for the Notes

The Bank of New York Mellon Trust Company, N.A. is the trustee under the Indentures. We have commercial deposits and custodial arrangements with The Bank of New York Mellon Trust Company, N.A. and its affiliates (“BNYM”). We may enter into similar or other banking relationships with BNYM in the future in the normal course of business. In addition, BNYM acts as trustee and as paying agent with respect to other debt securities issued by us, and may do so for future issuances of debt securities by us as well.

Exhibit 10.16

APPLE INC.
2014 EMPLOYEE STOCK PLAN
RESTRICTED STOCK UNIT AWARD AGREEMENT

NOTICE OF GRANT

Name: (the "Participant")

Employee ID:

Grant Number:

No. of Units Subject to Award:

Award Date: (the "Award Date")

Vesting Commencement Date: (the "Vesting Commencement Date")

Vesting Schedule:

This restricted stock unit award (the "Award") is granted under and governed by the terms and conditions of the Apple Inc. 2014 Employee Stock Plan and the Terms and Conditions of Restricted Stock Unit Award, which are incorporated herein by reference.

You do not have to accept the Award. If you wish to decline your Award, you should promptly notify Apple Inc.'s Stock Plan Group of your decision at stock@apple.com. If you do not provide such notification by the last day of the calendar month prior to the first Vesting Date, you will be deemed to have accepted your Award on the terms and conditions set forth herein.

APPLE INC.
2014 EMPLOYEE STOCK PLAN
RESTRICTED STOCK UNIT AWARD AGREEMENT

TERMS AND CONDITIONS OF RESTRICTED STOCK UNIT AWARD

1. **General**. These Terms and Conditions of Restricted Stock Unit Award (these "**Terms**") apply to a particular restricted stock unit award (the "**Award**") granted by Apple Inc., a California corporation (the "**Company**"), and are incorporated by reference in the Notice of Grant (the "**Grant Notice**") corresponding to that particular grant. The recipient of the Award identified in the Grant Notice is referred to as the "**Participant**." The effective date of grant of the Award as set forth in the Grant Notice is referred to as the "**Award Date**." The Award was granted under and is subject to the provisions of the Apple Inc. 2014 Employee Stock Plan (the "**Plan**"). Capitalized terms are defined in the Plan if not defined herein. The Award is discretionary and has been granted to the Participant in addition to, and not in lieu of, any other form of compensation otherwise payable or to be paid to the Participant. The Grant Notice and these Terms are collectively referred to as the "**Award Agreement**" applicable to the Award.

2. **Stock Units**. As used herein, the term "**Stock Unit**" shall mean a non-voting unit of measurement which is deemed for bookkeeping purposes to be equivalent to one outstanding share of the Company's Common Stock ("**Share**") solely for purposes of the Plan and this Award Agreement. The Stock Units shall be used solely as a device for the determination of the payment to eventually be made to the Participant if such Stock Units vest pursuant to this Award Agreement. The Stock Units shall not be treated as property or as a trust fund of any kind.

3. **Vesting**. Subject to Sections 4 and 8 below, the Award shall vest and become nonforfeitable as set forth in the Grant Notice. (Each vesting date set forth in the Grant Notice is referred to herein as a "**Vesting Date.**")

4. **Continuance of Employment**. Except as provided in this Section 4 and in Section 8 below, vesting of the Award requires continued active employment or service through each applicable Vesting Date as a condition to the vesting of the applicable installment of the Award and the rights and benefits under this Award Agreement. Employment or service for only a portion of the period between the Vesting Commencement Date and the first Vesting Date or between subsequent Vesting Dates, even if a substantial portion, will not entitle the Participant to any proportionate vesting of the Award. For purposes of this Award Agreement, active service shall include (a) the duration of an approved leave of absence (other than a personal leave of absence) and (b) the first thirty (30) days of an approved personal leave of absence, in each case as approved by the Company, in its sole discretion. The vesting of the Award shall be tolled beginning on the thirty-first (31st) day of a personal leave of absence.

Nothing contained in this Award Agreement or the Plan constitutes an employment or service commitment by the Company, affects the Participant's status as an employee at will who is subject to termination with or without cause, confers upon the Participant any right to remain employed by or in service to the Company or any Subsidiary, interferes in any way with the right of the Company or any Subsidiary at any time to terminate such employment or service, or affects the right of the Company or any Subsidiary to increase or decrease the Participant's other compensation or benefits. Nothing in this Section 4, however, is intended to adversely affect any independent contractual right of the Participant without his or her consent thereto.

5. Dividend and Voting Rights.

(a) Limitations on Rights Associated with Stock Units. The Participant shall have no rights as a shareholder of the Company, no dividend rights (except as expressly provided in Section 5(b) with respect to Dividend Equivalent Rights) and no voting rights, with respect to the Stock Units or any Shares underlying or issuable in respect of such Stock Units until such Shares are actually issued to and held of record by the Participant. No adjustments will be made for dividends or other rights of a holder for which the record date is prior to the date of issuance of the stock certificate or book entry evidencing such Shares.

(b) Dividend Equivalent Rights Distributions. As of any date that the Company pays an ordinary cash dividend on its Shares, the Company shall credit the Participant with a dollar amount equal to (i) the per share cash dividend paid by the Company on its Shares on such date, multiplied by (ii) the total number of Stock Units (with such total number adjusted pursuant to Section 11 of the Plan) subject to the Award that are outstanding immediately prior to the record date for that dividend (a "**Dividend Equivalent Right**"). Any Dividend Equivalent Rights credited pursuant to the foregoing provisions of this Section 5(b) shall be subject to the same vesting, payment and other terms, conditions and restrictions as the original Stock Units to which they relate, including the obligation to satisfy the Tax-Related Items; provided, however, that the amount of any vested Dividend Equivalent Rights shall be paid in cash. No crediting of Dividend Equivalent Rights shall be made pursuant to this Section 5(b) with respect to any Stock Units which, immediately prior to the record date for that dividend, have either been paid pursuant to Section 7 or terminated pursuant to Section 8.

6. Restrictions on Transfer. Except as provided in Section 4(c) of the Plan, the Award, the Dividend Equivalent Rights and any interest therein or amount or Shares payable in respect thereof shall not be sold, assigned, transferred, pledged or otherwise disposed of, alienated or encumbered, either voluntarily or involuntarily.

7. Timing and Manner of Payment of Stock Units. On or as soon as administratively practical following each vesting event pursuant to Section 3 or Section 8 (and in all events not later than two and one-half (2 ½) months after such vesting event), the Company shall deliver to the Participant a number of Shares (either by delivering one or more certificates for such Shares or by entering such Shares in book entry form, as determined by the Company in its discretion) equal to the number of Stock Units subject to the Award that vest on the applicable Vesting Date, less Tax-Related Items (as defined in Section 11 below), unless such Stock Units terminate prior to the given Vesting Date pursuant to Section 8. The Company's obligation to deliver Shares or otherwise make payment with respect to vested Stock Units is subject to the condition precedent that the Participant or other person entitled under the Plan to receive any Shares with respect to the vested Stock Units deliver to the Company any representations or other documents or assurances required pursuant to Section 13(c) of the Plan. The Participant shall have no further rights with respect to any Stock Units that are paid or that terminate pursuant to Section 8.

8. Effect of Termination of Service. Except as expressly provided in Section 4 or this Section 8, the Participant's Stock Units (as well as the related Dividend Equivalent Rights) shall terminate to the extent such Stock Units have not become vested prior to the Participant's Termination of Service, meaning the first date the Participant is no longer employed by or providing services to the Company or one of its Subsidiaries (the "**Severance Date**"), regardless of the reason for the Participant's Termination of Service, whether with or without cause, voluntarily or involuntarily, or whether the Participant was employed or provided services for a portion of the vesting period prior to a Vesting Date. Notwithstanding the foregoing, in the event the Participant's Termination of Service is due to the Participant's Disability at a time when Stock Units remain unvested under the Award, (a) the Award shall vest with respect to the number of Stock Units determined by multiplying (i) the number of then-outstanding and unvested Stock Units as well as the related Dividend Equivalent Rights subject to the Award that would have otherwise vested pursuant to Section 3 on the next Vesting Date following the Severance Date but for such

Termination of Service, by (ii) a fraction, the numerator of which shall be the number of days that have elapsed between the Vesting Date that immediately preceded the Severance Date (or, in the case of a Termination of Service prior to the initial Vesting Date, the Vesting Commencement Date) and the Severance Date, and the denominator of which shall be the number of days between the Vesting Date that immediately preceded the Severance Date (or, in the case of a Termination of Service prior to the initial Vesting Date, the Vesting Commencement Date) and the next Vesting Date following the Severance Date that would have occurred but for such Termination of Service; and (b) any Stock Units (as well as the related Dividend Equivalent Rights) that are not vested after giving effect to the foregoing clause (a) shall terminate on the Severance Date. Further, in the event the Participant's Termination of Service is due to the Participant's death, any unvested Stock Units shall be fully vested as of the Severance Date, and any Dividend Equivalent Rights credited to the Participant shall be paid. If any unvested Stock Units are terminated hereunder, such Stock Units (as well as the related Dividend Equivalent Rights) shall automatically terminate and be cancelled as of the applicable Severance Date without payment of any consideration by the Company and without any other action by the Participant or the Participant's personal representative, as the case may be.

9. **Recoupment**. Notwithstanding any other provision herein, the Award and any Shares or other amount or property that may be issued, delivered or paid in respect of the Award, as well as any consideration that may be received in respect of a sale or other disposition of any such Shares or property, shall be subject to any recoupment, "clawback" or similar provisions of applicable law. In addition, the Company may require the Participant to deliver or otherwise repay to the Company the Award and any Shares or other amount or property that may be issued, delivered or paid in respect of the Award, as well as any consideration that may be received in respect of a sale or other disposition of any such Shares or property, if the Company reasonably determines that one or more of the following has occurred:

(a) during the period of the Participant's employment or service with the Company or any of its Subsidiaries (the "**Employment Period**"), the Participant has committed a felony (under the laws of the United States or any relevant state, or a similar crime or offense under the applicable laws of any relevant foreign jurisdiction);

(b) during the Employment Period or at any time thereafter, the Participant has committed or engaged in a breach of confidentiality, or an unauthorized disclosure or use of inside information, customer lists, trade secrets or other confidential information of the Company or any of its Subsidiaries;

(c) during the Employment Period or at any time thereafter, the Participant has committed or engaged in an act of theft, embezzlement or fraud, or materially breached any agreement to which the Participant is a party with the Company or any of its Subsidiaries.

For purposes of the foregoing, the Participant expressly and explicitly authorizes the Company to issue instructions, on the Participant's behalf, to any brokerage firm or third party administrator holding the Participant's Shares and other amounts acquired under the Plan to re-convey, transfer, or otherwise return such Shares and other amounts to the Company. This Section 9 is not the Company's exclusive remedy with respect to such matters.

10. **Adjustments Upon Specified Events**. Upon the occurrence of certain events relating to the Company's stock contemplated by Section 11 of the Plan (including, without limitation, an extraordinary cash dividend on such stock), the Committee shall make adjustments in accordance with such section in the number of Stock Units then outstanding and the number and kind of securities that may be issued in respect of the Award. No such adjustment shall be made with respect to any ordinary cash dividend for which Dividend Equivalent Rights are credited pursuant to Section 5(b).

11. Responsibility for Taxes. The Participant acknowledges that, regardless of any action the Company or the Participant's employer ("**Employer**") take with respect to any or all income tax (including U.S. federal, state and local tax or non-U.S. tax), social insurance, payroll tax, payment on account or other tax-related items related to the Participant's participation in the Plan and legally applicable to the Participant or deemed by the Company or the Employer to be an appropriate charge to the Participant even if technically due by the Company or the Employer ("**Tax-Related Items**"), the ultimate liability for all Tax-Related Items is and remains the Participant's responsibility and may exceed the amount, if any, actually withheld by the Company or the Employer. The Participant further acknowledges that the Company and the Employer (i) make no representations or undertakings regarding the treatment of any Tax-Related Items in connection with any aspect of the Award, including the grant of the Stock Units, the vesting of the Stock Units, the delivery of Shares, the subsequent sale of any Shares acquired at vesting, and the receipt of any dividends or Dividend Equivalent Rights; and (ii) do not commit to and are under no obligation to structure the terms of the grant or any aspect of the Award to reduce or eliminate the Participant's liability for Tax-Related Items or achieve any particular tax result. Further, if the Participant is or becomes subject to tax in more than one jurisdiction, the Participant acknowledges that the Company or the Employer (or former employer, as applicable) may be required to withhold or account for Tax-Related Items in more than one jurisdiction.

Prior to the relevant taxable or tax withholding event, as applicable, the Participant shall pay or make arrangements satisfactory to the Company or the Employer to satisfy all Tax-Related Items. In this regard, the Participant authorizes the Company or the Employer, or their respective agents, at their discretion and pursuant to such procedures as they may specify from time to time, to satisfy any applicable withholding obligations with regard to all Tax-Related Items by one or a combination of the following:

(a) withholding from any wages or other cash compensation payable to the Participant by the Company or the Employer;

(b) withholding otherwise deliverable Shares and from otherwise payable Dividend Equivalent Rights to be issued or paid upon vesting/settlement of the Award;

(c) arranging for the sale of Shares otherwise deliverable to the Participant (on the Participant's behalf and at the Participant's direction pursuant to this authorization), including selling Shares as part of a block trade with other Participants in the Plan; or

(d) withholding from the proceeds of the sale of Shares acquired upon vesting/settlement of the Award.

Notwithstanding the foregoing, if the Participant is an officer of the Company who is subject to Section 16 of the Exchange Act, then the Company must satisfy any withholding obligations arising upon the occurrence of a taxable or tax withholding event, as applicable, by withholding Shares otherwise deliverable or an amount otherwise payable upon settlement of Dividend Equivalent Rights pursuant to method (b), unless the Board or the Committee determines in its discretion to satisfy the obligation for Tax-Related Items by one or a combination of methods (a), (b), (c), and (d) above.

The Company may withhold or account for Tax-Related Items by considering statutory withholding amounts or other withholding rates, including maximum rates applicable in the Participant's jurisdiction(s). If the maximum rate is used, any over-withheld amount may be refunded to the Participant in cash by the Company or Employer (with no entitlement to the Share equivalent) or if not refunded, the Participant may seek a refund from the local tax authorities. In the event of under-withholding, the Participant may be required to pay additional Tax-Related Items directly to the applicable tax authority or to the Company or Employer. If the obligation for Tax-Related Items is satisfied by withholding a number of Shares as described herein, for tax purposes, the Participant is deemed to have been issued the full number of Shares subject to the vested Stock Units, notwithstanding that a number of the Shares are

held back solely for the purpose of paying the Tax-Related Items. The Company may refuse to issue or deliver to the Participant any Shares or the proceeds of the sale of Shares if the Participant fails to comply with the Participant's obligations in connection with the Tax-Related Items.

12. **Electronic Delivery and Acceptance**. The Company may, in its sole discretion, deliver any documents related to the Award by electronic means or request the Participant's consent to participate in the Plan by electronic means. The Participant hereby consents to receive all applicable documentation by electronic delivery and to participate in the Plan through an on-line or voice activated system established and maintained by the Company or a third party vendor designated by the Company.

13. **Data Privacy**. By participating in the Plan, the Participant acknowledges and consents to the collection, use, processing and transfer of personal data as described in this Section 13. The Company, its related entities, and the Employer hold certain personal information about the Participant, including the Participant's name, home address and telephone number, email address, date of birth, social security number or other employee identification number, salary, nationality, job title, any Shares or directorships held in the Company, details of all Stock Units or any other entitlement to Shares or equivalent benefits awarded, canceled, purchased, vested, unvested or outstanding in the Participant's favor, for the purpose of managing and administering the Plan ("**Data**"). The Company and its related entities may transfer Data amongst themselves as necessary for the purpose of implementation, administration, and management of the Participant's participation in the Plan, and the Company and its related entities may each further transfer Data to any third parties assisting the Company or any such related entity in the implementation, administration, and management of the Plan. The Participant acknowledges that the transferors and transferees of such Data may be located anywhere in the world and hereby authorizes each of them to receive, possess, use, retain and transfer the Data, in electronic or other form, for the purposes of implementing, administering, and managing the Participant's participation in the Plan, including any transfer of such Data as may be required for the administration of the Plan and the subsequent holding of Shares on the Participant's behalf to a broker or to other third party with whom the Participant may elect to deposit any Shares acquired under the Plan (whether pursuant to the Award or otherwise).

14. **Notices**. Any notice to be given under the terms of this Award Agreement shall be in writing and addressed to the Company at its principal office to the attention of the Secretary, and to the Participant at the Participant's last address reflected on the Company's records, or at such other address as either party may hereafter designate in writing to the other. Any such notice shall be given only when received, but if the Participant is no longer an employee of the Company, shall be deemed to have been duly given by the Company when enclosed in a properly sealed envelope addressed as aforesaid, registered or certified, and deposited (postage and registry or certification fee prepaid) in a post office or branch post office regularly maintained by the United States Government.

15. **Plan**. The Award and all rights of the Participant under this Award Agreement are subject to the terms and conditions of the provisions of the Plan, incorporated herein by reference. The Participant agrees to be bound by the terms of the Plan and this Award Agreement. The Participant acknowledges having read and understood the Plan, the Prospectus for the Plan, and this Award Agreement. Unless otherwise expressly provided in other sections of this Award Agreement, provisions of the Plan that confer discretionary authority on the Board or the Committee do not (and shall not be deemed to) create any rights in the Participant unless such rights are expressly set forth herein or are otherwise in the sole discretion of the Board or the Committee so conferred by appropriate action of the Board or the Committee under the Plan after the date hereof.

16. **Entire Agreement**. This Award Agreement and the Plan together constitute the entire agreement and supersede all prior understandings and agreements, written or oral, of the parties hereto with respect to the subject matter hereof. The Plan and this Award Agreement may be amended pursuant to Section 15 of the Plan. Such amendment must be in writing and signed by the Company. The Company may, however, unilaterally waive any provision hereof in writing to the extent such waiver

does not adversely affect the interests of the Participant hereunder, but no such waiver shall operate as or be construed to be a subsequent waiver of the same provision or a waiver of any other provision hereof.

17. Limitation on the Participant's Rights. Participation in the Plan confers no rights or interests other than as herein provided. This Award Agreement creates only a contractual obligation on the part of the Company as to amounts payable and shall not be construed as creating a trust. Neither the Plan nor any underlying program, in and of itself, has any assets. The Participant shall have only the rights of a general unsecured creditor of the Company with respect to amounts credited and benefits payable, if any, with respect to the Stock Units, and rights no greater than the right to receive the Shares as a general unsecured creditor with respect to Stock Units, as and when payable hereunder.

18. Section Headings. The section headings of this Award Agreement are for convenience of reference only and shall not be deemed to alter or affect any provision hereof.

19. Governing Law. This Award Agreement shall be governed by and construed and enforced in accordance with the laws of the State of California without regard to conflict of law principles thereunder.

20. Choice of Venue. For purposes of litigating any dispute that arises directly or indirectly from the relationship of the parties evidenced by this grant or this Award Agreement, the parties hereby submit to the exclusive jurisdiction of the State of California and agree that such litigation shall be conducted only in the courts of Santa Clara County, California, or the federal courts for the Northern District of California, and no other courts, where this grant is made or to be performed.

21. Construction. It is intended that the terms of the Award will not result in the imposition of any tax liability pursuant to Section 409A of the Code. This Award Agreement shall be construed and interpreted with that intent.

22. Severability. The provisions of this Award Agreement are severable and if any one of more provisions are determined to be illegal or otherwise unenforceable, in whole or in part, the remaining provisions shall nevertheless be binding and enforceable.

23. Imposition of Other Requirements. The Company reserves the right to impose other requirements on the Participant's participation in the Plan, on the Stock Units and on any Shares acquired under the Plan, to the extent the Company determines it is necessary or advisable for legal or administrative reasons, and to require the Participant to sign any additional agreements or undertakings that may be necessary to accomplish the foregoing.

Exhibit 10.17

APPLE INC.
2014 EMPLOYEE STOCK PLAN
RESTRICTED STOCK UNIT AWARD AGREEMENT

PERFORMANCE AWARD

NOTICE OF GRANT

Name: (the "Participant")

Employee ID:

Grant Number:

Target No. of Units
Subject to Award:

Award Date: (the "Award Date")

Vesting Schedule:

Performance Period:

This restricted stock unit award (the "Award") is granted under and governed by the terms and conditions of the Apple Inc. 2014 Employee Stock Plan and the Terms and Conditions of Restricted Stock Unit Award - Performance Award (including Exhibit A thereto), which are incorporated herein by reference.

You do not have to accept the Award. If you wish to decline your Award, you should promptly notify Apple Inc.'s Stock Plan Group of your decision at stock@apple.com. If you do not provide such notification by the last day of the calendar month prior to the Vesting Date, you will be deemed to have accepted your Award on the terms and conditions set forth herein.

APPLE INC.
2014 EMPLOYEE STOCK PLAN
RESTRICTED STOCK UNIT AWARD AGREEMENT

TERMS AND CONDITIONS OF RESTRICTED STOCK UNIT AWARD

PERFORMANCE AWARD

1. **General**. These Terms and Conditions of Restricted Stock Unit Award - Performance Award (these "**Terms**") apply to a particular restricted stock unit award (the "**Award**") granted by Apple Inc., a California corporation (the "**Company**"), and are incorporated by reference in the Notice of Grant (the "**Grant Notice**") corresponding to that particular grant. The recipient of the Award identified in the Grant Notice is referred to as the "**Participant**." The effective date of grant of the Award as set forth in the Grant Notice is referred to as the "**Award Date**." The Award was granted under and is subject to the provisions of the Apple Inc. 2014 Employee Stock Plan (the "**Plan**"). Capitalized terms are defined in the Plan if not defined herein. The Award is discretionary and has been granted to the Participant in addition to, and not in lieu of, any other form of compensation otherwise payable or to be paid to the Participant. The Grant Notice and these Terms (including Exhibit A hereto, incorporated herein by this reference) are collectively referred to as the "**Award Agreement**" applicable to the Award.

2. **Stock Units**. As used herein, the term "**Stock Unit**" shall mean a non-voting unit of measurement which is deemed for bookkeeping purposes to be equivalent to one outstanding share of the Company's Common Stock ("**Share**") solely for purposes of the Plan and this Award Agreement. The Stock Units shall be used solely as a device for the determination of the payment to eventually be made to the Participant if such Stock Units vest pursuant to this Award Agreement. The Stock Units shall not be treated as property or as a trust fund of any kind.

3. **Vesting**. Subject to Sections 4 and 8 below, the Award shall vest and become nonforfeitable as set forth in the Grant Notice and Exhibit A hereto. (The vesting date set forth in the Grant Notice is referred to herein as a "**Vesting Date**").

4. **Continuance of Employment**. Except as provided in this Section 4 and in Section 8 below, vesting of the Award requires continued active employment or service through the Vesting Date as a condition to the vesting of the Award and the rights and benefits under this Award Agreement. Employment or service for only a portion of the vesting period, even if a substantial portion, will not entitle the Participant to any proportionate vesting of the Award. For purposes of this Award Agreement, active service shall include (a) the duration of an approved leave of absence (other than a personal leave of absence) and (b) the first thirty (30) days of an approved personal leave of absence, in each case as approved by the Company, in its sole discretion. The vesting of the Award shall be tolled beginning on the thirty-first (31st) day of a personal leave of absence.

Nothing contained in this Award Agreement or the Plan constitutes an employment or service commitment by the Company, affects the Participant's status as an employee at will who is subject to termination with or without cause, confers upon the Participant any right to remain employed by or in service to the Company or any Subsidiary, interferes in any way with the right of the Company or any Subsidiary at any time to terminate such employment or services, or affects the right of the Company or any Subsidiary to increase or decrease the Participant's other compensation or benefits. Nothing in this Section 4, however, is intended to adversely affect any independent contractual right of the Participant without his or her consent thereto.

5. Dividend and Voting Rights.

(a) Limitations on Rights Associated with Stock Units. The Participant shall have no rights as a shareholder of the Company, no dividend rights (except as expressly provided in Section 5(b) with respect to Dividend Equivalent Rights) and no voting rights, with respect to the Stock Units or any Shares underlying or issuable in respect of such Stock Units until such Shares are actually issued to and held of record by the Participant. No adjustments will be made for dividends or other rights of a holder for which the record date is prior to the date of issuance of the stock certificate or book entry evidencing such Shares.

(b) Dividend Equivalent Rights Distributions. As of any date that the Company pays an ordinary cash dividend on its Shares, the Company shall credit the Participant with a dollar amount equal to (i) the per share cash dividend paid by the Company on its Shares on such date, multiplied by (ii) the total target number of Stock Units (with such total number adjusted pursuant to Section 11 of the Plan) subject to the Award that are outstanding immediately prior to the record date for that dividend (a "**Dividend Equivalent Right**"). Any Dividend Equivalent Rights credited pursuant to the foregoing provisions of this Section 5(b) shall be subject to the same vesting, payment and other terms, conditions and restrictions as the original Stock Units to which they relate, including the obligation to satisfy the Tax-Related Items; provided, however, that the amount of any vested Dividend Equivalent Rights shall be paid in cash. For purposes of clarity, the percentage of the Dividend Equivalent Rights that are paid will correspond to the percentage of the total target number of Stock Units that vest on the Vesting Date, after giving effect to Exhibit A. No crediting of Dividend Equivalent Rights shall be made pursuant to this Section 5(b) with respect to any Stock Units which, immediately prior to the record date for that dividend, have either been paid pursuant to Section 7 or terminated pursuant to Section 8 or Exhibit A.

6. Restrictions on Transfer. Except as provided in Section 4(c) of the Plan, the Award, the Dividend Equivalent Rights and any interest therein or amount or Shares payable in respect thereof shall not be sold, assigned, transferred, pledged or otherwise disposed of, alienated or encumbered, either voluntarily or involuntarily.

7. Timing and Manner of Payment of Stock Units. On or as soon as administratively practical following the vesting event pursuant to Section 3 or Section 8 (and in all events not later than two and one-half (2 ½) months after such vesting event), the Company shall deliver to the Participant a number of Shares (either by delivering one or more certificates for such Shares or by entering such Shares in book entry form, as determined by the Company in its discretion) equal to the number of Stock Units subject to the Award that vest on the Vesting Date, less Tax-Related Items (as defined in Section 11 below), unless such Stock Units terminate prior to the Vesting Date pursuant to Section 8. The Company's obligation to deliver Shares or otherwise make payment with respect to vested Stock Units is subject to the condition precedent that the Participant or other person entitled under the Plan to receive any Shares with respect to the vested Stock Units deliver to the Company any representations or other documents or assurances required pursuant to Section 13(c) of the Plan. The Participant shall have no further rights with respect to any Stock Units that are paid or that terminate pursuant to Section 8.

8. Effect of Termination of Service. Except as provided in Section 4 or this Section 8, the Participant's Stock Units (as well as the related Dividend Equivalent Rights) shall terminate to the extent such Stock Units have not become vested prior to the Participant's Termination of Service, meaning the first date the Participant is no longer employed by or providing services to the Company or one of its Subsidiaries (the "**Severance Date**"), regardless of the reason for the Participant's Termination of Service, whether with or without cause, voluntarily or involuntarily or whether the Participant was employed or provided services for a portion of the vesting period prior to a Vesting Date. In the event the Participant's Severance Date is the result of the Participant's Termination of Service due to the Participant's death or Disability and the Severance Date occurs prior to the Vesting Date, on the Vesting Date the Award shall vest with respect to a number of Stock Units determined by multiplying (i) the Stock

Units as well as the related Dividend Equivalent Rights subject to the Award that would have otherwise vested pursuant to the Award on such Vesting Date but for the Termination of Service and to the extent the applicable performance-based vesting requirement is satisfied, by (ii) the Severance Fraction (determined as set forth below). Any Stock Units (as well as the related Dividend Equivalent Rights) that are unvested on the Severance Date and that are not eligible to vest on the Vesting Date following the Severance Date pursuant to the preceding sentence shall terminate as of the Severance Date, and any Stock Units that remain outstanding and unvested after giving effect to the preceding sentence shall terminate as of the Vesting Date. The "**Severance Fraction**" means a fraction, the numerator of which shall be determined by subtracting the number of days remaining in the Performance Period on the Severance Date from the total number of days in the Performance Period, and the denominator of which shall be the total number of days in the Performance Period. If any unvested Stock Units are terminated pursuant to this Award Agreement, such Stock Units (as well as the related Dividend Equivalent Rights) shall automatically terminate and be cancelled as of the applicable Severance Date (or, to the extent the applicable performance-based vesting conditions are not satisfied, the Vesting Date, as provided in Exhibit A) without payment of any consideration by the Company and without any other action by the Participant, or the Participant's beneficiary or personal representative, as the case may be.

9. **Recoupment**. Notwithstanding any other provision herein, the Award and any Shares or other amount or property that may be issued, delivered or paid in respect of the Award, as well as any consideration that may be received in respect of a sale or other disposition of any such Shares or property, shall be subject to any recoupment, "clawback" or similar provisions of applicable law. In addition, the Company may require the Participant to deliver or otherwise repay to the Company the Award and any Shares or other amount or property that may be issued, delivered or paid in respect of the Award, as well as any consideration that may be received in respect of a sale or other disposition of any such Shares or property, if the Company reasonably determines that one or more of the following has occurred:

(a) during the period of the Participant's employment or service with the Company or any of its Subsidiaries (the "**Employment Period**"), the Participant has committed a felony (under the laws of the United States or any relevant state, or a similar crime or offense under the applicable laws of any relevant foreign jurisdiction);

(b) during the Employment Period or at any time thereafter, the Participant has committed or engaged in a breach of confidentiality, or an unauthorized disclosure or use of inside information, customer lists, trade secrets or other confidential information of the Company or any of its Subsidiaries;

(c) during the Employment Period or at any time thereafter, the Participant has committed or engaged in an act of theft, embezzlement or fraud, or materially breached any agreement to which the Participant is a party with the Company or any of its Subsidiaries.

For purposes of the foregoing, the Participant expressly and explicitly authorizes the Company to issue instructions, on the Participant's behalf, to any brokerage firm and/or third party administrator engaged by the Company to hold the Participant's Shares and other amounts acquired under the Plan to re-convey, transfer or otherwise return such Shares and/or other amounts to the Company. This Section 9 is not the Company's exclusive remedy with respect to such matters.

10. **Adjustments Upon Specified Events**. Upon the occurrence of certain events relating to the Company's stock contemplated by Section 11 of the Plan (including, without limitation, an extraordinary cash dividend on such stock), the Committee shall make adjustments in accordance with such section in the number of Stock Units then outstanding and the number and kind of securities that may be issued in respect of the Award. No such adjustment shall be made with respect to any ordinary cash dividend for which Dividend Equivalent Rights are credited pursuant to Section 5(b).

11. **Responsibility for Taxes**. The Participant acknowledges that, regardless of any action the Company and/or the Participant's employer ("**Employer**") take with respect to any or all income tax (including U.S. federal, state and local tax and/or non-U.S. tax), social insurance, payroll tax, payment on account or other tax-related items related to the Participant's participation in the Plan and legally applicable to the Participant or deemed by the Company or the Employer to be an appropriate charge to the Participant even if technically due by the Company or the Employer ("**Tax-Related Items**"), the ultimate liability for all Tax-Related Items is and remains the Participant's responsibility and may exceed the amount, if any, actually withheld by the Company or the Employer. The Participant further acknowledges that the Company and/or the Employer (i) make no representations or undertakings regarding the treatment of any Tax-Related Items in connection with any aspect of the Award, including the grant of the Stock Units, the vesting of the Stock Units, the delivery of Shares, the subsequent sale of any Shares acquired at vesting and the receipt of any dividends and/or Dividend Equivalent Rights; and (ii) do not commit to and are under no obligation to structure the terms of the grant or any aspect of the Award to reduce or eliminate the Participant's liability for Tax-Related Items or achieve any particular tax result. Further, if the Participant is or becomes subject to tax in more than one jurisdiction, the Participant acknowledges that the Company and/or the Employer (or former employer, as applicable) may be required to withhold or account for Tax-Related Items in more than one jurisdiction.

Prior to the relevant taxable or tax withholding event, as applicable, the Participant shall pay or make arrangements satisfactory to the Company and/or the Employer to satisfy all Tax-Related Items. In this regard, the Participant authorizes the Company and/or the Employer, or their respective agents, at their discretion and pursuant to such procedures as they may specify from time to time, to satisfy any applicable withholding obligations with regard to all Tax-Related Items by one or a combination of the following:

(a) withholding from any wages or other cash compensation payable to the Participant by the Company and/or the Employer;

(b) withholding otherwise deliverable Shares and/or from otherwise payable Dividend Equivalent Rights to be issued or paid upon vesting/settlement of the Award;

(c) arranging for the sale of Shares otherwise deliverable to the Participant (on the Participant's behalf and at the Participant's direction pursuant to this authorization), including selling Shares as part of a block trade with other Participants in the Plan; or

(d) withholding from the proceeds of the sale of Shares acquired upon vesting/settlement of the Award.

Notwithstanding the foregoing, if the Participant is an officer of the Company who is subject to Section 16 of the Exchange Act, then the Company must satisfy any withholding obligations arising upon the occurrence of a taxable or tax withholding event, as applicable, by withholding Shares otherwise deliverable or an amount otherwise payable upon settlement of Dividend Equivalent Rights pursuant to method (b), unless the Board or the Committee determines in its discretion to satisfy the obligation for Tax-Related Items by one or a combination of methods (a), (b), (c), and (d) above.

The Company may withhold or account for Tax-Related Items by considering statutory withholding amounts or other withholding rates, including maximum rates applicable in the Participant's jurisdiction(s). If the maximum rate is used, any over-withheld amount may be refunded to the Participant in cash by the Company or Employer (with no entitlement to the Share equivalent) or if not refunded, the Participant may seek a refund from the local tax authorities. In the event of under-withholding, the Participant may be required to pay additional Tax-Related Items directly to the applicable tax authority or to the Company or Employer. If the obligation for Tax-Related Items is satisfied by withholding a number of Shares as described herein, for tax purposes, the Participant is deemed to have been issued the full number of Shares subject to the vested Stock Units, notwithstanding that a number of the Shares are

held back solely for the purpose of paying the Tax-Related Items. The Company may refuse to issue or deliver to the Participant any Shares or the proceeds of the sale of Shares if the Participant fails to comply with the Participant's obligations in connection with the Tax-Related Items.

12. **Electronic Delivery and Acceptance**. The Company may, in its sole discretion, deliver any documents related to the Award by electronic means or request the Participant's consent to participate in the Plan by electronic means. The Participant hereby consents to receive all applicable documentation by electronic delivery and to participate in the Plan through an on-line (and/or voice activated) system established and maintained by the Company or a third party vendor designated by the Company.

13. **Data Privacy**. The Participant acknowledges and consents to the collection, use, processing and transfer of personal data as described in this Section 13. The Company, its related entities, and the Employer hold certain personal information about the Participant, including the Participant's name, home address and telephone number, email address, date of birth, social security number or other employee identification number, salary, nationality, job title, any Shares or directorships held in the Company, details of all Stock Units or any other entitlement to Shares or equivalent benefits awarded, canceled, purchased, vested, unvested or outstanding in the Participant's favor, for the purpose of managing and administering the Plan ("**Data**"). The Company and its related entities may transfer Data amongst themselves as necessary for the purpose of implementation, administration and management of the Participant's participation in the Plan, and the Company and its related entities may each further transfer Data to any third parties assisting the Company or any such related entity in the implementation, administration and management of the Plan. The Participant acknowledges that the transferors and transferees of such Data may be located anywhere in the world and hereby authorizes each of them to receive, possess, use, retain and transfer the Data, in electronic or other form, for the purposes of implementing, administering and managing the Participant's participation in the Plan, including any transfer of such Data as may be required for the administration of the Plan and/or the subsequent holding of Shares on the Participant's behalf to a broker or to other third party with whom the Participant may elect to deposit any Shares acquired under the Plan (whether pursuant to the Award or otherwise).

14. **Notices**. Any notice to be given under the terms of this Award Agreement shall be in writing and addressed to the Company at its principal office to the attention of the Secretary, and to the Participant at the Participant's last address reflected on the Company's records, or at such other address as either party may hereafter designate in writing to the other. Any such notice shall be given only when received, but if the Participant is no longer an employee of the Company, shall be deemed to have been duly given by the Company when enclosed in a properly sealed envelope addressed as aforesaid, registered or certified, and deposited (postage and registry or certification fee prepaid) in a post office or branch post office regularly maintained by the United States Government.

15. **Plan**. The Award and all rights of the Participant under this Award Agreement are subject to the terms and conditions of the provisions of the Plan, incorporated herein by reference. The Participant agrees to be bound by the terms of the Plan and this Award Agreement. The Participant acknowledges having read and understood the Plan, the Prospectus for the Plan, and this Award Agreement. Unless otherwise expressly provided in other sections of this Award Agreement, provisions of the Plan that confer discretionary authority on the Board or the Committee do not (and shall not be deemed to) create any rights in the Participant unless such rights are expressly set forth herein or are otherwise in the sole discretion of the Board or the Committee so conferred by appropriate action of the Board or the Committee under the Plan after the date hereof.

16. **Entire Agreement**. This Award Agreement and the Plan together constitute the entire agreement and supersede all prior understandings and agreements, written or oral, of the parties hereto with respect to the subject matter hereof. The Plan and this Award Agreement may be amended pursuant to Section 15 of the Plan. Such amendment must be in writing and signed by the Company. The Company may, however, unilaterally waive any provision hereof in writing to the extent such waiver

does not adversely affect the interests of the Participant hereunder, but no such waiver shall operate as or be construed to be a subsequent waiver of the same provision or a waiver of any other provision hereof.

17. Limitation on the Participant's Rights. Participation in the Plan confers no rights or interests other than as herein provided. This Award Agreement creates only a contractual obligation on the part of the Company as to amounts payable and shall not be construed as creating a trust. Neither the Plan nor any underlying program, in and of itself, has any assets. The Participant shall have only the rights of a general unsecured creditor of the Company with respect to amounts credited and benefits payable, if any, with respect to the Stock Units, and rights no greater than the right to receive the Shares as a general unsecured creditor with respect to Stock Units, as and when payable hereunder.

18. Section Headings. The section headings of this Award Agreement are for convenience of reference only and shall not be deemed to alter or affect any provision hereof.

19. Governing Law. This Award Agreement shall be governed by and construed and enforced in accordance with the laws of the State of California without regard to conflict of law principles thereunder.

20. Choice of Venue. For purposes of litigating any dispute that arises directly or indirectly from the relationship of the parties evidenced by this grant or this Award Agreement, the parties hereby submit to the exclusive jurisdiction of the State of California and agree that such litigation shall be conducted only in the courts of Santa Clara County, California, or the federal courts for the Northern District of California, and no other courts, where this grant is made and/or to be performed.

21. Construction. It is intended that the terms of the Award will not result in the imposition of any tax liability pursuant to Section 409A of the Code. This Award Agreement shall be construed and interpreted consistent with that intent.

22. Severability. The provisions of this Award Agreement are severable and if any one of more provisions are determined to be illegal or otherwise unenforceable, in whole or in part, the remaining provisions shall nevertheless be binding and enforceable.

23. Imposition of Other Requirements. The Company reserves the right to impose other requirements on the Participant's participation in the Plan, on the Stock Units and on any Shares acquired under the Plan, to the extent the Company determines it is necessary or advisable for legal or administrative reasons, and to require the Participant to sign any additional agreements or undertakings that may be necessary to accomplish the foregoing.

* * * * *

PERFORMANCE AWARD

EXHIBIT A

PERFORMANCE VESTING REQUIREMENTS

The Stock Units (and related Dividend Equivalent Rights) subject to the Award that will vest on the Vesting Date will be determined based on the Company's relative total shareholder return ("**TSR**") Percentile for the Performance Period.

The percentage of the Stock Units (and related Dividend Equivalent Rights) that vest on the Vesting Date will be determined as follows:

- If the Company's TSR Percentile for the Performance Period is at the [ ] ([ ]) percentile or greater, [ ] ([ ]%) of the target Stock Units will vest on the Vesting Date.

- If the Company's TSR Percentile for the Performance Period is at the [ ] ([ ]) percentile, [ ] ([ ]%) of the target Stock Units will vest on the Vesting Date.

- If the Company's TSR Percentile for the Performance Period is at the [ ] ([ ]) percentile, [ ] ([ ]%) of the target Stock Units will vest on the Vesting Date.

- If the Company's TSR Percentile for the Performance Period is below the [ ] ([ ]) percentile, [ ] ([ ]%) of the Stock Units will vest on the Vesting Date.

For TSR Percentile performance for the Performance Period between the levels indicated above, the portion of the Stock Units that will vest on the Vesting Date will be determined on a straight-line basis (*i.e.*, linearly interpolated) between the two nearest vesting percentages indicated above.

Notwithstanding the foregoing, if the Company's TSR for the Performance Period is negative, in no event shall more than one hundred percent (100%) of the target Stock Units vest.

The number of Stock Units that vest on the Vesting Date will be rounded to the nearest whole unit, and the balance of the Stock Units will not vest and will terminate on that Vesting Date.

For purposes of the Award, the following definitions will apply:

- "**TSR Percentile**" means the percentile ranking of the Company's TSR among the TSRs for the Comparison Group members for the Performance Period. In determining the Company's TSR Percentile for the Performance Period, in the event that the Company's TSR for the Performance Period is equal to the TSR(s) of one or more other Comparison Group members for that same period, the Company's TSR Percentile ranking will be determined by ranking the Company's TSR for that period as being greater than such other Comparison Group members.

- "**Comparison Group**" means the Company and each other company included in the Standard & Poor's 500 index on the first day of the Performance Period and, except as provided below, the common stock (or similar equity security) of which continues to be listed or traded on a national securities exchange through the last trading day of the Performance Period. In the event a member of the Comparison Group files for bankruptcy or liquidates due to an insolvency, such company shall continue to be treated as a Comparison Group member, and such company's Ending Price will be treated as $0 if the common stock (or similar equity security) of such company is no longer listed or

traded on a national securities exchange on the last trading day of the Performance Period. In the event of a formation of a new parent company by a Comparison Group member, substantially all of the assets and liabilities of which consist immediately after the transaction of the equity interests in the original Comparison Group member or the assets and liabilities of such Comparison Group member immediately prior to the transaction, such new parent company shall be substituted for the Comparison Group member to the extent (and for such period of time) as its common stock (or similar equity securities) are listed or traded on a national securities exchange but the common stock (or similar equity securities) of the original Comparison Group member are not. In the event of a merger or other business combination of two Comparison Group members (including, without limitation, the acquisition of one Comparison Group member, or all or substantially all of its assets, by another Comparison Group member), the surviving, resulting or successor entity, as the case may be, shall continue to be treated as a member of the Comparison Group, provided that the common stock (or similar equity security) of such entity is listed or traded on a national securities exchange through the last trading day of the Performance Period. With respect to the preceding two sentences, the applicable stock prices shall be equitably and proportionately adjusted to the extent (if any) necessary to preserve the intended incentives of the awards and mitigate the impact of the transaction.

- "**TSR**" shall be determined with respect to the Company and any other Comparison Group member by dividing: (a) the sum of (i) the difference obtained by subtracting the applicable Beginning Price from the applicable Ending Price plus (ii) all dividends and other distributions during the Performance Period by (b) the applicable Beginning Price. Any non-cash distributions shall be valued at fair market value. For the purpose of determining TSR, the value of dividends and other distributions shall be determined by treating them as reinvested in additional shares of stock at the closing market price on the date of distribution.

- "**Beginning Price**" means, with respect to the Company and any other Comparison Group member, the average of the closing market prices of such company's common stock on the principal exchange on which such stock is traded for the twenty (20) consecutive trading days beginning with the first trading day of the Performance Period. For the purpose of determining Beginning Price, the value of dividends and other distributions shall be determined by treating them as reinvested in additional shares of stock at the closing market price on the date of distribution.

- "**Ending Price**" means, with respect to the Company and any other Comparison Group member, the average of the closing market prices of such company's common stock on the principal exchange on which such stock is traded for the twenty (20) consecutive trading days ending on the last trading day of the Performance Period. For the purpose of determining Ending Price, the value of dividends and other distributions shall be determined by treating them as reinvested in additional shares of stock at the closing market price on the date of distribution.

With respect to the computation of TSR, Beginning Price, and Ending Price, there shall also be an equitable and proportionate adjustment to the extent (if any) necessary to preserve the intended incentives of the awards and mitigate the impact of any stock split, stock dividend or reverse stock split occurring during the Performance Period (or during the applicable 20-day period in determining Beginning Price or Ending Price, as the case may be).

In the event of any ambiguity or discrepancy, the determination of the Committee shall be final and binding.

* * * * *

Exhibit 21.1

Subsidiaries of
Apple Inc.*

	Jurisdiction of Incorporation
Apple Canada Inc.	Canada
Apple Computer Trading (Shanghai) Co., Ltd.	China
Apple Distribution International Limited	Ireland
Apple Europe Limited	United Kingdom
Apple France	France
Apple GmbH	Germany
Apple Japan, Inc.	Japan
Apple Operations Limited	Ireland
Apple Operations Europe Limited	Ireland
Apple Operations International Limited	Ireland
Apple Pty Limited	Australia
Apple Sales International Limited	Ireland
Apple Value Services, LLC	Virginia, U.S.
Braeburn Capital, Inc.	Nevada, U.S.

* Pursuant to Item 601(b)(21)(ii) of Regulation S-K, the names of other subsidiaries of Apple Inc. are omitted because, considered in the aggregate, they would not constitute a significant subsidiary as of the end of the year covered by this report.

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Exhibit 23.1

Consent of Independent Registered Public Accounting Firm

We consent to the incorporation by reference in the following Registration Statements:

(1) Registration Statement (Form S-3 ASR No. 333-228159) of Apple Inc.,

(2) Registration Statement (Form S-8 No. 333-226986) pertaining to Apple Inc. Deferred Compensation Plan,

(3) Registration Statement (Form S-8 No. 333-203698) pertaining to Apple Inc. Employee Stock Purchase Plan,

(4) Registration Statement (Form S-8 No. 333-195509) pertaining to Apple Inc. 2014 Employee Stock Plan,

(5) Registration Statement (Form S-8 No. 333-193709) pertaining to Topsy Labs, Inc. 2007 Stock Plan,

(6) Registration Statement (Form S-8 No. 333-184706) pertaining to AuthenTec, Inc. 2010 Incentive Plan, as amended,

(7) Registration Statement (Form S-8 No. 333-179189) pertaining to Anobit Technologies Ltd. Global Share Incentive Plan (2006), and

(8) Registration Statement (Form S-8 No. 333-60455) pertaining to Apple Inc. Non-Employee Director Stock Plan;

of our reports dated October 29, 2020 with respect to the consolidated financial statements of Apple Inc., and the effectiveness of internal control over financial reporting of Apple Inc., included in this Annual Report on Form 10-K for the year ended September 26, 2020.

/s/ Ernst & Young LLP

San Jose, California
October 29, 2020

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Exhibit 31.1

CERTIFICATION

I, Timothy D. Cook, certify that:

1. I have reviewed this annual report on Form 10-K of Apple Inc.;

2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;

3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the Registrant as of, and for, the periods presented in this report;

4. The Registrant's other certifying officer(s) and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the Registrant and have:

    (a) Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the Registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;

    (b) Designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;

    (c) Evaluated the effectiveness of the Registrant's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and

    (d) Disclosed in this report any change in the Registrant's internal control over financial reporting that occurred during the Registrant's most recent fiscal quarter (the Registrant's fourth fiscal quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, the Registrant's internal control over financial reporting; and

5. The Registrant's other certifying officer(s) and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the Registrant's auditors and the audit committee of the Registrant's board of directors (or persons performing the equivalent functions):

    (a) All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the Registrant's ability to record, process, summarize and report financial information; and

    (b) Any fraud, whether or not material, that involves management or other employees who have a significant role in the Registrant's internal control over financial reporting.

Date: October 29, 2020

By: /s/ Timothy D. Cook
Timothy D. Cook
Chief Executive Officer

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Exhibit 31.2

CERTIFICATION

I, Luca Maestri, certify that:

1. I have reviewed this annual report on Form 10-K of Apple Inc.;

2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;

3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the Registrant as of, and for, the periods presented in this report;

4. The Registrant's other certifying officer(s) and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the Registrant and have:

    (a) Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the Registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;

    (b) Designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;

    (c) Evaluated the effectiveness of the Registrant's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and

    (d) Disclosed in this report any change in the Registrant's internal control over financial reporting that occurred during the Registrant's most recent fiscal quarter (the Registrant's fourth fiscal quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, the Registrant's internal control over financial reporting; and

5. The Registrant's other certifying officer(s) and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the Registrant's auditors and the audit committee of the Registrant's board of directors (or persons performing the equivalent functions):

    (a) All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the Registrant's ability to record, process, summarize and report financial information; and

    (b) Any fraud, whether or not material, that involves management or other employees who have a significant role in the Registrant's internal control over financial reporting.

Date: October 29, 2020

By: /s/ Luca Maestri

Luca Maestri
Senior Vice President,
Chief Financial Officer

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Exhibit 32.1

CERTIFICATIONS OF CHIEF EXECUTIVE OFFICER AND CHIEF FINANCIAL OFFICER
PURSUANT TO
18 U.S.C. SECTION 1350,
AS ADOPTED PURSUANT TO
SECTION 906 OF THE SARBANES-OXLEY ACT OF 2002

I, Timothy D. Cook, certify, as of the date hereof, pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002, that the Annual Report of Apple Inc. on Form 10-K for the fiscal year ended September 26, 2020 fully complies with the requirements of Section 13(a) or 15(d) of the Securities Exchange Act of 1934 and that information contained in such Form 10-K fairly presents in all material respects the financial condition and results of operations of Apple Inc. at the dates and for the periods indicated.

Date: October 29, 2020

By: /s/ Timothy D. Cook
Timothy D. Cook
Chief Executive Officer

I, Luca Maestri, certify, as of the date hereof, pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002, that the Annual Report of Apple Inc. on Form 10-K for the fiscal year ended September 26, 2020 fully complies with the requirements of Section 13(a) or 15(d) of the Securities Exchange Act of 1934 and that information contained in such Form 10-K fairly presents in all material respects the financial condition and results of operations of Apple Inc. at the dates and for the periods indicated.

Date: October 29, 2020

By: /s/ Luca Maestri
Luca Maestri
Senior Vice President,
Chief Financial Officer

A signed original of this written statement required by Section 906 has been provided to Apple Inc. and will be retained by Apple Inc. and furnished to the Securities and Exchange Commission or its staff upon request.

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UNITED STATES
SECURITIES AND EXCHANGE COMMISSION
Washington, D.C. 20549

FORM 10-Q

(Mark One)

☒ **QUARTERLY REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934**

For the quarterly period ended June 26, 2021

or

☐ **TRANSITION REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934**

For the transition period from _____ to _____.

Commission File Number: **001-36743**

Apple Inc.

(Exact name of Registrant as specified in its charter)

California	**94-2404110**
(State or other jurisdiction of incorporation or organization)	(I.R.S. Employer Identification No.)
One Apple Park Way **Cupertino, California**	**95014**
(Address of principal executive offices)	(Zip Code)

(408) 996-1010
(Registrant's telephone number, including area code)

Securities registered pursuant to Section 12(b) of the Act:

Title of each class	Trading symbol(s)	Name of each exchange on which registered
Common Stock, $0.00001 par value per share	**AAPL**	**The Nasdaq Stock Market LLC**
1.000% Notes due 2022	**—**	**The Nasdaq Stock Market LLC**
1.375% Notes due 2024	**—**	**The Nasdaq Stock Market LLC**
0.000% Notes due 2025	**—**	**The Nasdaq Stock Market LLC**
0.875% Notes due 2025	**—**	**The Nasdaq Stock Market LLC**
1.625% Notes due 2026	**—**	**The Nasdaq Stock Market LLC**
2.000% Notes due 2027	**—**	**The Nasdaq Stock Market LLC**
1.375% Notes due 2029	**—**	**The Nasdaq Stock Market LLC**
3.050% Notes due 2029	**—**	**The Nasdaq Stock Market LLC**
0.500% Notes due 2031	**—**	**The Nasdaq Stock Market LLC**
3.600% Notes due 2042	**—**	**The Nasdaq Stock Market LLC**

Indicate by check mark whether the Registrant (1) has filed all reports required to be filed by Section 13 or 15(d) of the Securities Exchange Act of 1934 during the preceding 12 months (or for such shorter period that the Registrant was required to file such reports), and (2) has been subject to such filing requirements for the past 90 days.

Yes ☒ No ☐

Indicate by check mark whether the Registrant has submitted electronically every Interactive Data File required to be submitted pursuant to Rule 405 of Regulation S-T (§232.405 of this chapter) during the preceding 12 months (or for such shorter period that the Registrant was required to submit such files).

Yes ☒ No ☐

Indicate by check mark whether the Registrant is a large accelerated filer, an accelerated filer, a non-accelerated filer, a smaller reporting company, or an emerging growth company. See the definitions of "large accelerated filer," "accelerated filer," "smaller reporting company," and "emerging growth company" in Rule 12b-2 of the Exchange Act.

Large accelerated filer	☒	Accelerated filer	☐
Non-accelerated filer	☐	Smaller reporting company	☐
		Emerging growth company	☐

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If an emerging growth company, indicate by check mark if the Registrant has elected not to use the extended transition period for complying with any new or revised financial accounting standards provided pursuant to Section 13(a) of the Exchange Act. ☐

Indicate by check mark whether the Registrant is a shell company (as defined in Rule 12b-2 of the Exchange Act).

Yes ☐ No ☒

16,530,166,000 shares of common stock were issued and outstanding as of July 16, 2021.

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Apple Inc.

Form 10-Q

For the Fiscal Quarter Ended June 26, 2021

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PART I — FINANCIAL INFORMATION

Item 1. Financial Statements

Apple Inc.

CONDENSED CONSOLIDATED STATEMENTS OF OPERATIONS (Unaudited)
(In millions, except number of shares which are reflected in thousands and per share amounts)

	Three Months Ended		Nine Months Ended	
	June 26, 2021	June 27, 2020	June 26, 2021	June 27, 2020
Net sales:				
Products	$ 63,948	$ 46,529	$ 232,309	$ 170,598
Services	17,486	13,156	50,148	39,219
Total net sales	81,434	59,685	282,457	209,817
Cost of sales:				
Products	40,899	32,693	149,476	116,089
Services	5,280	4,312	15,319	13,461
Total cost of sales	46,179	37,005	164,795	129,550
Gross margin	35,255	22,680	117,662	80,267
Operating expenses:				
Research and development	5,717	4,758	16,142	13,774
Selling, general and administrative	5,412	4,831	16,357	14,980
Total operating expenses	11,129	9,589	32,499	28,754
Operating income	24,126	13,091	85,163	51,513
Other income/(expense), net	243	46	796	677
Income before provision for income taxes	24,369	13,137	85,959	52,190
Provision for income taxes	2,625	1,884	11,830	7,452
Net income	$ 21,744	$ 11,253	$ 74,129	$ 44,738
Earnings per share:				
Basic	$ 1.31	$ 0.65	$ 4.42	$ 2.56
Diluted	$ 1.30	$ 0.65	$ 4.38	$ 2.54
Shares used in computing earnings per share:				
Basic	16,629,371	17,250,291	16,772,656	17,450,284
Diluted	16,781,735	17,419,154	16,941,527	17,618,778

See accompanying Notes to Condensed Consolidated Financial Statements.

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Apple Inc.

CONDENSED CONSOLIDATED STATEMENTS OF COMPREHENSIVE INCOME (Unaudited)
(In millions)

	Three Months Ended		Nine Months Ended	
	June 26, 2021	June 27, 2020	June 26, 2021	June 27, 2020
Net income	$ 21,744	$ 11,253	$ 74,129	$ 44,738
Other comprehensive income/(loss):				
Change in foreign currency translation, net of tax	188	194	659	(170)
Change in unrealized gains/losses on derivative instruments, net of tax:				
Change in fair value of derivatives	(24)	78	4	46
Adjustment for net (gains)/losses realized and included in net income	17	(1,120)	593	(884)
Total change in unrealized gains/losses on derivative instruments	(7)	(1,042)	597	(838)
Change in unrealized gains/losses on marketable debt securities, net of tax:				
Change in fair value of marketable debt securities	217	3,098	(558)	898
Adjustment for net (gains)/losses realized and included in net income	(54)	(11)	(234)	8
Total change in unrealized gains/losses on marketable debt securities	163	3,087	(792)	906
Total other comprehensive income/(loss)	344	2,239	464	(102)
Total comprehensive income	$ 22,088	$ 13,492	$ 74,593	$ 44,636

See accompanying Notes to Condensed Consolidated Financial Statements.

Apple Inc.

CONDENSED CONSOLIDATED BALANCE SHEETS (Unaudited)
(In millions, except number of shares which are reflected in thousands and par value)

	June 26, 2021	September 26, 2020
ASSETS:		
Current assets:		
Cash and cash equivalents	$ 34,050	$ 38,016
Marketable securities	27,646	52,927
Accounts receivable, net	17,475	16,120
Inventories	5,178	4,061
Vendor non-trade receivables	16,433	21,325
Other current assets	13,641	11,264
Total current assets	114,423	143,713
Non-current assets:		
Marketable securities	131,948	100,887
Property, plant and equipment, net	38,615	36,766
Other non-current assets	44,854	42,522
Total non-current assets	215,417	180,175
Total assets	$ 329,840	$ 323,888
LIABILITIES AND SHAREHOLDERS' EQUITY:		
Current liabilities:		
Accounts payable	$ 40,409	$ 42,296
Other current liabilities	43,625	42,684
Deferred revenue	7,681	6,643
Commercial paper	8,000	4,996
Term debt	8,039	8,773
Total current liabilities	107,754	105,392
Non-current liabilities:		
Term debt	105,752	98,667
Other non-current liabilities	52,054	54,490
Total non-current liabilities	157,806	153,157
Total liabilities	265,560	258,549
Commitments and contingencies		
Shareholders' equity:		
Common stock and additional paid-in capital, $0.00001 par value: 50,400,000 shares authorized; 16,556,942 and 16,976,763 shares issued and outstanding, respectively	54,989	50,779
Retained earnings	9,233	14,966
Accumulated other comprehensive income/(loss)	58	(406)
Total shareholders' equity	64,280	65,339
Total liabilities and shareholders' equity	$ 329,840	$ 323,888

See accompanying Notes to Condensed Consolidated Financial Statements.

Apple Inc.

CONDENSED CONSOLIDATED STATEMENTS OF SHAREHOLDERS' EQUITY (Unaudited)
(In millions, except per share amounts)

	Three Months Ended		Nine Months Ended	
	June 26, 2021	June 27, 2020	June 26, 2021	June 27, 2020
Total shareholders' equity, beginning balances	$ 69,178	$ 78,425	$ 65,339	$ 90,488
Common stock and additional paid-in capital:				
Beginning balances	54,203	48,032	50,779	45,174
Common stock issued	—	—	561	430
Common stock withheld related to net share settlement of equity awards	(1,224)	(1,071)	(2,460)	(2,123)
Share-based compensation	2,010	1,735	6,109	5,215
Ending balances	54,989	48,696	54,989	48,696
Retained earnings:				
Beginning balances	15,261	33,182	14,966	45,898
Net income	21,744	11,253	74,129	44,738
Dividends and dividend equivalents declared	(3,713)	(3,611)	(10,755)	(10,528)
Common stock withheld related to net share settlement of equity awards	(1,559)	(688)	(3,606)	(1,320)
Common stock repurchased	(22,500)	(16,000)	(65,501)	(54,516)
Cumulative effect of change in accounting principle	—	—	—	(136)
Ending balances	9,233	24,136	9,233	24,136
Accumulated other comprehensive income/(loss):				
Beginning balances	(286)	(2,789)	(406)	(584)
Other comprehensive income/(loss)	344	2,239	464	(102)
Cumulative effect of change in accounting principle	—	—	—	136
Ending balances	58	(550)	58	(550)
Total shareholders' equity, ending balances	$ 64,280	$ 72,282	$ 64,280	$ 72,282
Dividends and dividend equivalents declared per share or RSU	$ 0.22	$ 0.205	$ 0.63	$ 0.59

See accompanying Notes to Condensed Consolidated Financial Statements.

Apple Inc.

CONDENSED CONSOLIDATED STATEMENTS OF CASH FLOWS (Unaudited)
(In millions)

	Nine Months Ended	
	June 26, 2021	June 27, 2020
Cash, cash equivalents and restricted cash, beginning balances	$ 39,789	$ 50,224
Operating activities:		
Net income	74,129	44,738
Adjustments to reconcile net income to cash generated by operating activities:		
Depreciation and amortization	8,295	8,354
Share-based compensation expense	5,961	5,105
Deferred income tax expense/(benefit)	(737)	182
Other	(689)	(94)
Changes in operating assets and liabilities:		
Accounts receivable, net	(1,316)	5,149
Inventories	(1,213)	10
Vendor non-trade receivables	4,892	8,685
Other current and non-current assets	(5,899)	(6,760)
Accounts payable	(1,786)	(10,787)
Deferred revenue	1,738	1,649
Other current and non-current liabilities	463	3,867
Cash generated by operating activities	83,838	60,098
Investing activities:		
Purchases of marketable securities	(94,052)	(96,606)
Proceeds from maturities of marketable securities	49,880	54,865
Proceeds from sales of marketable securities	36,745	39,760
Payments for acquisition of property, plant and equipment	(7,862)	(5,525)
Payments made in connection with business acquisitions, net	(13)	(1,473)
Other	(78)	(841)
Cash used in investing activities	(15,380)	(9,820)
Financing activities:		
Proceeds from issuance of common stock	561	430
Payments for taxes related to net share settlement of equity awards	(5,855)	(3,234)
Payments for dividends and dividend equivalents	(10,827)	(10,570)
Repurchases of common stock	(66,223)	(55,171)
Proceeds from issuance of term debt, net	13,923	10,635
Repayments of term debt	(7,500)	(12,629)
Proceeds from commercial paper, net	3,022	31
Proceeds from repurchase agreements	—	5,165
Other	(72)	(120)
Cash used in financing activities	(72,971)	(65,463)
Decrease in cash, cash equivalents and restricted cash	(4,513)	(15,185)
Cash, cash equivalents and restricted cash, ending balances	$ 35,276	$ 35,039
Supplemental cash flow disclosure:		
Cash paid for income taxes, net	$ 18,536	$ 8,410
Cash paid for interest	$ 1,870	$ 2,275

See accompanying Notes to Condensed Consolidated Financial Statements.

Apple Inc.

Notes to Condensed Consolidated Financial Statements (Unaudited)

Note 1 – Summary of Significant Accounting Policies

Basis of Presentation and Preparation

The condensed consolidated financial statements include the accounts of Apple Inc. and its wholly owned subsidiaries (collectively "Apple" or the "Company"). Intercompany accounts and transactions have been eliminated. In the opinion of the Company's management, the condensed consolidated financial statements reflect all adjustments, which are normal and recurring in nature, necessary for fair financial statement presentation. The preparation of these condensed consolidated financial statements and accompanying notes in conformity with U.S. generally accepted accounting principles requires management to make estimates and assumptions that affect the amounts reported. Actual results could differ materially from those estimates. Certain prior period amounts in the consolidated financial statements and accompanying notes have been reclassified to conform to the current period's presentation. These condensed consolidated financial statements and accompanying notes should be read in conjunction with the Company's annual consolidated financial statements and accompanying notes included in its Annual Report on Form 10-K for the fiscal year ended September 26, 2020 (the "2020 Form 10-K").

The Company's fiscal year is the 52- or 53-week period that ends on the last Saturday of September. An additional week is included in the first fiscal quarter every five or six years to realign the Company's fiscal quarters with calendar quarters. The Company's fiscal years 2021 and 2020 span 52 weeks each. Unless otherwise stated, references to particular years, quarters, months and periods refer to the Company's fiscal years ended in September and the associated quarters, months and periods of those fiscal years.

Common Stock Split

On August 28, 2020, the Company effected a four-for-one stock split to shareholders of record as of August 24, 2020. All share, restricted stock unit ("RSU") and per share or per RSU information has been retroactively adjusted to reflect the stock split.

Recently Adopted Accounting Pronouncements

Financial Instruments – Credit Losses

At the beginning of the first quarter of 2021, the Company adopted the Financial Accounting Standards Board's Accounting Standards Update No. 2016-13, *Financial Instruments – Credit Losses (Topic 326): Measurement of Credit Losses on Financial Instruments* ("ASU 2016-13"), which modifies the measurement of expected credit losses on certain financial instruments. The Company adopted ASU 2016-13 utilizing the modified retrospective transition method. The adoption of ASU 2016-13 did not have a material impact on the Company's condensed consolidated financial statements.

Earnings Per Share

The following table shows the computation of basic and diluted earnings per share for the three- and nine-month periods ended June 26, 2021 and June 27, 2020 (net income in millions and shares in thousands):

	Three Months Ended		Nine Months Ended	
	June 26, 2021	June 27, 2020	June 26, 2021	June 27, 2020
Numerator:				
Net income	$ 21,744	$ 11,253	$ 74,129	$ 44,738
Denominator:				
Weighted-average basic shares outstanding	16,629,371	17,250,291	16,772,656	17,450,284
Effect of dilutive securities	152,364	168,863	168,871	168,494
Weighted-average diluted shares	16,781,735	17,419,154	16,941,527	17,618,778
Basic earnings per share	$ 1.31	$ 0.65	$ 4.42	$ 2.56
Diluted earnings per share	$ 1.30	$ 0.65	$ 4.38	$ 2.54

Note 2 – Revenue Recognition

Net sales consist of revenue from the sale of iPhone®, Mac®, iPad®, Services and other products. The Company recognizes revenue at the amount to which it expects to be entitled when control of the products or services is transferred to its customers. Control is generally transferred when the Company has a present right to payment and title and the significant risks and rewards of ownership of products or services are transferred to its customers. For most of the Company's Products net sales, control transfers when products are shipped. For the Company's Services net sales, control transfers over time as services are delivered. Payment for Products and Services net sales is collected within a short period following transfer of control or commencement of delivery of services, as applicable.

The Company records reductions to Products net sales related to future product returns, price protection and other customer incentive programs based on the Company's expectations and historical experience.

For arrangements with multiple performance obligations, which represent promises within an arrangement that are distinct, the Company allocates revenue to all distinct performance obligations based on their relative stand-alone selling prices ("SSPs"). When available, the Company uses observable prices to determine SSPs. When observable prices are not available, SSPs are established that reflect the Company's best estimates of what the selling prices of the performance obligations would be if they were sold regularly on a stand-alone basis. The Company's process for estimating SSPs without observable prices considers multiple factors that may vary depending upon the unique facts and circumstances related to each performance obligation including, where applicable, prices charged by the Company for similar offerings, market trends in the pricing for similar offerings, product-specific business objectives and the estimated cost to provide the performance obligation.

The Company has identified up to three performance obligations regularly included in arrangements involving the sale of iPhone, Mac, iPad and certain other products. The first performance obligation, which represents the substantial portion of the allocated sales price, is the hardware and bundled software delivered at the time of sale. The second performance obligation is the right to receive certain product-related bundled services, which include iCloud®, Siri® and Maps. The third performance obligation is the right to receive, on a when-and-if-available basis, future unspecified software upgrades relating to the software bundled with each device. The Company allocates revenue and any related discounts to these performance obligations based on their relative SSPs. Because the Company lacks observable prices for the undelivered performance obligations, the allocation of revenue is based on the Company's estimated SSPs. Revenue allocated to the delivered hardware and bundled software is recognized when control has transferred to the customer, which generally occurs when the product is shipped. Revenue allocated to the product-related bundled services and unspecified software upgrade rights is deferred and recognized on a straight-line basis over the estimated period they are expected to be provided. Cost of sales related to delivered hardware and bundled software, including estimated warranty costs, are recognized at the time of sale. Costs incurred to provide product-related bundled services and unspecified software upgrade rights are recognized as cost of sales as incurred.

For certain long-term service arrangements, the Company has performance obligations for services it has not yet delivered. For these arrangements, the Company does not have a right to bill for the undelivered services. The Company has determined that any unbilled consideration relates entirely to the value of the undelivered services. Accordingly, the Company has not recognized revenue, and has elected not to disclose amounts, related to these undelivered services.

For the sale of third-party products where the Company obtains control of the product before transferring it to the customer, the Company recognizes revenue based on the gross amount billed to customers. The Company considers multiple factors when determining whether it obtains control of third-party products including, but not limited to, evaluating if it can establish the price of the product, retains inventory risk for tangible products or has the responsibility for ensuring acceptability of the product. For third-party applications sold through the App Store® and certain digital content sold through the Company's other digital content stores, the Company does not obtain control of the product before transferring it to the customer. Therefore, the Company accounts for such sales on a net basis by recognizing in Services net sales only the commission it retains.

The Company has elected to record revenue net of taxes collected from customers that are remitted to governmental authorities, with the collected taxes recorded within other current liabilities until remitted to the relevant government authority.

Deferred Revenue

As of June 26, 2021 and September 26, 2020, the Company had total deferred revenue of $12.0 billion and $10.2 billion, respectively. As of June 26, 2021, the Company expects 64% of total deferred revenue to be realized in less than a year, 26% within one-to-two years, 8% within two-to-three years and 2% in greater than three years.

Disaggregated Revenue

Net sales disaggregated by significant products and services for the three- and nine-month periods ended June 26, 2021 and June 27, 2020 were as follows (in millions):

	Three Months Ended		Nine Months Ended	
	June 26, 2021	June 27, 2020	June 26, 2021	June 27, 2020
iPhone [1]	$ 39,570	$ 26,418	$ 153,105	$ 111,337
Mac [1]	8,235	7,079	26,012	19,590
iPad [1]	7,368	6,582	23,610	16,927
Wearables, Home and Accessories [1][2]	8,775	6,450	29,582	22,744
Services [3]	17,486	13,156	50,148	39,219
Total net sales [4]	$ 81,434	$ 59,685	$ 282,457	$ 209,817

(1) Products net sales include amortization of the deferred value of unspecified software upgrade rights, which are bundled in the sales price of the respective product.

(2) Wearables, Home and Accessories net sales include sales of AirPods®, Apple TV®, Apple Watch®, Beats® products, HomePod®, iPod touch® and Apple-branded and third-party accessories.

(3) Services net sales include sales from the Company's advertising, AppleCare®, digital content and other services. Services net sales also include amortization of the deferred value of Maps, Siri, and free iCloud storage and Apple TV+℠ services, which are bundled in the sales price of certain products.

(4) Includes $3.0 billion of revenue recognized in the three months ended June 26, 2021 that was included in deferred revenue as of March 27, 2021, $2.1 billion of revenue recognized in the three months ended June 27, 2020 that was included in deferred revenue as of March 28, 2020, $5.5 billion of revenue recognized in the nine months ended June 26, 2021 that was included in deferred revenue as of September 26, 2020, and $4.0 billion of revenue recognized in the nine months ended June 27, 2020 that was included in deferred revenue as of September 28, 2019.

The Company's proportion of net sales by disaggregated revenue source was generally consistent for each reportable segment in Note 11, "Segment Information and Geographic Data" for the three- and nine-month periods ended June 26, 2021 and June 27, 2020.

Note 3 – Financial Instruments

Cash, Cash Equivalents and Marketable Securities

The following tables show the Company's cash, cash equivalents and marketable securities by significant investment category as of June 26, 2021 and September 26, 2020 (in millions):

	June 26, 2021						
	Adjusted Cost	Unrealized Gains	Unrealized Losses	Fair Value	Cash and Cash Equivalents	Current Marketable Securities	Non-Current Marketable Securities
Cash	$ 14,853	$ —	$ —	$ 14,853	$ 14,853	$ —	$ —
Level 1 [1]:							
Money market funds	9,568	—	—	9,568	9,568	—	—
Mutual funds	159	8	—	167	—	167	—
Subtotal	9,727	8	—	9,735	9,568	167	—
Level 2 [2]:							
U.S. Treasury securities	22,582	133	(112)	22,603	1,602	8,083	12,918
U.S. agency securities	7,542	3	(69)	7,476	410	1,781	5,285
Non-U.S. government securities	20,007	252	(92)	20,167	118	3,537	16,512
Certificates of deposit and time deposits	7,099	—	—	7,099	6,362	466	271
Commercial paper	2,056	—	—	2,056	1,137	919	—
Corporate debt securities	85,221	1,444	(276)	86,389	—	11,903	74,486
Municipal securities	984	15	—	999	—	128	871
Mortgage- and asset-backed securities	22,233	191	(157)	22,267	—	662	21,605
Subtotal	167,724	2,038	(706)	169,056	9,629	27,479	131,948
Total [3]	$ 192,304	$ 2,046	$ (706)	$ 193,644	$ 34,050	$ 27,646	$ 131,948

	September 26, 2020						
	Adjusted Cost	Unrealized Gains	Unrealized Losses	Fair Value	Cash and Cash Equivalents	Current Marketable Securities	Non-Current Marketable Securities
Cash	$ 17,773	$ —	$ —	$ 17,773	$ 17,773	$ —	$ —
Level 1 [1]: Money market funds	2,171	—	—	2,171	2,171	—	—
Level 2 [2]:							
U.S. Treasury securities	28,439	331	—	28,770	8,580	11,972	8,218
U.S. agency securities	8,604	8	—	8,612	2,009	3,078	3,525
Non-U.S. government securities	19,361	275	(186)	19,450	255	3,329	15,866
Certificates of deposit and time deposits	10,399	—	—	10,399	4,043	6,246	110
Commercial paper	11,226	—	—	11,226	3,185	8,041	—
Corporate debt securities	76,937	1,834	(175)	78,596	—	19,687	58,909
Municipal securities	1,001	22	—	1,023	—	139	884
Mortgage- and asset-backed securities	13,520	314	(24)	13,810	—	435	13,375
Subtotal	169,487	2,784	(385)	171,886	18,072	52,927	100,887
Total [3]	$ 189,431	$ 2,784	$ (385)	$ 191,830	$ 38,016	$ 52,927	$ 100,887

(1) Level 1 fair value estimates are based on quoted prices in active markets for identical assets or liabilities.

(2) Level 2 fair value estimates are based on observable inputs other than quoted prices in active markets for identical assets and liabilities, quoted prices for identical or similar assets or liabilities in inactive markets, or other inputs that are observable or can be corroborated by observable market data for substantially the full term of the assets or liabilities.

(3) As of June 26, 2021 and September 26, 2020, total marketable securities included $18.9 billion and $18.6 billion, respectively, that was restricted from general use, related to the State Aid Decision (refer to Note 5, "Income Taxes") and other agreements.

The Company may sell certain of its marketable debt securities prior to their stated maturities for reasons including, but not limited to, managing liquidity, credit risk, duration and asset allocation. The following table shows the fair value of the Company's non-current marketable debt securities, by contractual maturity, as of June 26, 2021 (in millions):

Due after 1 year through 5 years	$	83,577
Due after 5 years through 10 years		26,324
Due after 10 years		22,047
Total fair value	$	131,948

The Company typically invests in highly rated securities, with the primary objective of minimizing the potential risk of principal loss. The Company's investment policy generally requires securities to be investment grade and limits the amount of credit exposure to any one issuer. Fair values were determined for each individual security in the investment portfolio.

Non-Marketable Securities

The Company holds non-marketable equity securities of certain privately held companies without readily determinable fair values. As of both June 26, 2021 and September 26, 2020, the Company's non-marketable equity securities had a carrying value of $2.8 billion.

Restricted Cash

A reconciliation of the Company's cash and cash equivalents in the Condensed Consolidated Balance Sheets to cash, cash equivalents and restricted cash in the Condensed Consolidated Statements of Cash Flows as of June 26, 2021 and September 26, 2020 is as follows (in millions):

		June 26, 2021		September 26, 2020
Cash and cash equivalents	$	34,050	$	38,016
Restricted cash		1,226		1,773
Cash, cash equivalents and restricted cash	$	35,276	$	39,789

The Company's restricted cash primarily consisted of cash to support the Company's iPhone Upgrade Program. Substantially all of the Company's restricted cash was included in other non-current assets in the Condensed Consolidated Balance Sheets.

Derivative Financial Instruments

The Company may use derivatives to partially offset its business exposure to foreign currency and interest rate risk on expected future cash flows, net investments in certain foreign subsidiaries, and certain existing assets and liabilities. However, the Company may choose not to hedge certain exposures for a variety of reasons including, but not limited to, accounting considerations or the prohibitive economic cost of hedging particular exposures. There can be no assurance the hedges will offset more than a portion of the financial impact resulting from movements in foreign currency exchange or interest rates.

To protect gross margins from fluctuations in foreign currency exchange rates, certain of the Company's subsidiaries whose functional currency is the U.S. dollar may hedge a portion of forecasted foreign currency revenue, and subsidiaries whose functional currency is not the U.S. dollar may hedge a portion of forecasted inventory purchases not denominated in the subsidiaries' functional currencies. The Company may enter into forward contracts, option contracts or other instruments to manage this risk and may designate these instruments as cash flow hedges. The Company generally hedges portions of its forecasted foreign currency exposure associated with revenue and inventory purchases, typically for up to 12 months.

To protect the net investment in a foreign operation from fluctuations in foreign currency exchange rates, the Company may enter into foreign currency forward and option contracts to offset a portion of the changes in the carrying amounts of these investments due to fluctuations in foreign currency exchange rates. In addition, the Company may use non-derivative financial instruments, such as its foreign currency–denominated debt, as hedges of its net investments in certain foreign subsidiaries. In both of these cases, the Company designates these instruments as net investment hedges.

To protect the Company's foreign currency–denominated term debt or marketable securities from fluctuations in foreign currency exchange rates, the Company may enter into forward contracts, cross-currency swaps or other instruments. These instruments may offset a portion of the foreign currency remeasurement gains or losses, or changes in fair value. The Company may designate these instruments as either cash flow or fair value hedges. As of June 26, 2021, the Company's hedged term debt– and marketable securities–related foreign currency transactions are expected to be recognized within 21 years.

The Company may also enter into non-designated foreign currency contracts to offset a portion of the foreign currency exchange gains and losses generated by the remeasurement of certain assets and liabilities denominated in non-functional currencies.

To protect the Company's foreign currency–denominated term debt or marketable securities from fluctuations in interest rates, the Company may enter into interest rate swaps, options or other instruments. These instruments may offset a portion of the changes in interest income or expense, or changes in fair value. The Company designates these instruments as either cash flow or fair value hedges. As of June 26, 2021, the Company's hedged interest rate transactions are expected to be recognized within six years.

Cash Flow Hedges

Cash flow hedge amounts that are included in the assessment of hedge effectiveness are deferred in accumulated other comprehensive income/(loss) ("AOCI") until the hedged item is recognized in earnings. Deferred gains and losses associated with cash flow hedges of foreign currency revenue are recognized as a component of net sales in the same period as the related revenue is recognized, and deferred gains and losses related to cash flow hedges of inventory purchases are recognized as a component of cost of sales in the same period as the related costs are recognized. Deferred gains and losses associated with cash flow hedges of interest income or expense are recognized in other income/(expense), net ("OI&E") in the same period as the related income or expense is recognized. For options designated as cash flow hedges, the time value is excluded from the assessment of hedge effectiveness and recognized in the financial statement line item to which the hedge relates on a straight-line basis over the life of the hedge. Changes in the fair value of amounts excluded from the assessment of hedge effectiveness are recognized in other comprehensive income/(loss) ("OCI").

Derivative instruments designated as cash flow hedges must be de-designated as hedges when it is probable the forecasted hedged transaction will not occur in the initially identified time period or within a subsequent two-month time period. Deferred gains and losses in AOCI associated with such derivative instruments are reclassified into OI&E in the period of de-designation. Any subsequent changes in fair value of such derivative instruments are reflected in OI&E unless they are re-designated as hedges of other transactions.

Net Investment Hedges

Net investment hedge amounts that are included in the assessment of hedge effectiveness are recorded in OCI as a part of the cumulative translation adjustment. For foreign exchange forward contracts designated as net investment hedges, the forward carry component is excluded from the assessment of hedge effectiveness and recognized in OCI on a straight-line basis over the life of the hedge. Changes in the fair value of amounts excluded from the assessment of hedge effectiveness are recognized in OCI.

Fair Value Hedges

Fair value hedge gains and losses related to amounts that are included in the assessment of hedge effectiveness are recognized in earnings along with a corresponding loss or gain related to the change in value of the hedged item in the same line in the Condensed Consolidated Statements of Operations. For foreign exchange forward contracts designated as fair value hedges, the forward carry component is excluded from the assessment of hedge effectiveness and recognized in OI&E on a straight-line basis over the life of the hedge. Amounts excluded from the effectiveness assessment of fair value hedges and recognized in OI&E were gains of $57 million and $199 million for the three- and nine-month periods ended June 26, 2021, respectively, and were gains of $119 million and $373 million for the three- and nine-month periods ended June 27, 2020, respectively. Changes in the fair value of amounts excluded from the assessment of hedge effectiveness are recognized in OCI.

Non-Designated Derivatives

Derivatives that are not designated as hedging instruments are adjusted to fair value through earnings in the financial statement line item to which the derivative relates.

The Company records all derivatives in the Condensed Consolidated Balance Sheets at fair value. The Company's accounting treatment for these derivative instruments is based on its hedge designation. The following tables show the Company's derivative instruments at gross fair value as of June 26, 2021 and September 26, 2020 (in millions):

	June 26, 2021		
	Fair Value of Derivatives Designated as Hedge Instruments	Fair Value of Derivatives Not Designated as Hedge Instruments	Total Fair Value
Derivative assets [1]:			
Foreign exchange contracts	$ 700	$ 510	$ 1,210
Interest rate contracts	$ 891	$ —	$ 891
Derivative liabilities [2]:			
Foreign exchange contracts	$ 918	$ 601	$ 1,519

	September 26, 2020		
	Fair Value of Derivatives Designated as Hedge Instruments	Fair Value of Derivatives Not Designated as Hedge Instruments	Total Fair Value
Derivative assets [1]:			
Foreign exchange contracts	$ 749	$ 303	$ 1,052
Interest rate contracts	$ 1,557	$ —	$ 1,557
Derivative liabilities [2]:			
Foreign exchange contracts	$ 1,561	$ 485	$ 2,046

(1) The fair value of derivative assets is measured using Level 2 fair value inputs and is included in other current assets and other non-current assets in the Condensed Consolidated Balance Sheets.

(2) The fair value of derivative liabilities is measured using Level 2 fair value inputs and is included in other current liabilities and other non-current liabilities in the Condensed Consolidated Balance Sheets.

The Company classifies cash flows related to derivative financial instruments as operating activities in its Condensed Consolidated Statements of Cash Flows.

The following table shows the pre-tax gains and losses of the Company's derivative and non-derivative instruments designated as cash flow and net investment hedges in OCI and the Condensed Consolidated Statements of Operations for the three- and nine-month periods ended June 26, 2021 and June 27, 2020 (in millions):

	Three Months Ended		Nine Months Ended	
	June 26, 2021	June 27, 2020	June 26, 2021	June 27, 2020
Gains/(Losses) recognized in OCI – included in effectiveness assessment:				
Cash flow hedges:				
Foreign exchange contracts	$ (87)	$ 366	$ 60	$ 175
Interest rate contracts	—	(6)	93	(72)
Total	$ (87)	$ 360	$ 153	$ 103
Net investment hedges:				
Foreign currency debt	$ —	$ (20)	$ —	$ 15
Gains/(Losses) reclassified from AOCI into net income – included in effectiveness assessment:				
Cash flow hedges:				
Foreign exchange contracts	$ 9	$ 1,389	$ (562)	$ 1,063
Interest rate contracts	(1)	(3)	(6)	(6)
Total	$ 8	$ 1,386	$ (568)	$ 1,057

Amounts excluded from the effectiveness assessment of the Company's hedges and recognized in OCI were a gain of $63 million and a loss of $34 million for the three- and nine-month periods ended June 26, 2021, respectively, and were losses of $220 million and $51 million for the three- and nine-month periods ended June 27, 2020, respectively.

The following tables show information about the Company's derivative instruments designated as fair value hedges and the related hedged items for the three- and nine-month periods ended June 26, 2021 and June 27, 2020 and as of June 26, 2021 and September 26, 2020 (in millions):

	Three Months Ended		Nine Months Ended	
	June 26, 2021	June 27, 2020	June 26, 2021	June 27, 2020
Gains/(Losses) on derivative instruments [1]:				
Foreign exchange contracts	$ (130)	$ (675)	$ (313)	$ (422)
Interest rate contracts	(32)	57	(650)	1,185
Total	$ (162)	$ (618)	$ (963)	$ 763
Gains/(Losses) related to hedged items [1]:				
Marketable securities	$ 130	$ 675	$ 313	$ 422
Fixed-rate debt	32	(57)	650	(1,185)
Total	$ 162	$ 618	$ 963	$ (763)

	June 26, 2021	September 26, 2020
Carrying amounts of hedged assets/(liabilities):		
Marketable securities [2]	$ 16,254	$ 16,270
Fixed-rate debt [3]	$ (18,384)	$ (21,033)
Cumulative hedging adjustments included in the carrying amounts of hedged items:		
Marketable securities carrying amount increases/(decreases)	$ 538	$ 493
Fixed-rate debt carrying amount (increases)/decreases	$ (891)	$ (1,541)

(1) Gains and losses related to fair value hedges are included in OI&E in the Condensed Consolidated Statements of Operations.

(2) The carrying amounts of marketable securities that are designated as hedged items in fair value hedges are included in current marketable securities and non-current marketable securities in the Condensed Consolidated Balance Sheets

(3) The carrying amounts of fixed-rate debt instruments that are designated as hedged items in fair value hedges are included in current term debt and non-current term debt in the Condensed Consolidated Balance Sheets.

The following table shows the notional amounts of the Company's outstanding derivative instruments and credit risk amounts associated with outstanding or unsettled derivative instruments as of June 26, 2021 and September 26, 2020 (in millions):

	June 26, 2021		September 26, 2020	
	Notional Amount	Credit Risk Amount	Notional Amount	Credit Risk Amount
Instruments designated as accounting hedges:				
Foreign exchange contracts	$ 53,914	$ 700	$ 57,410	$ 749
Interest rate contracts	$ 17,500	$ 891	$ 20,700	$ 1,557
Instruments not designated as accounting hedges:				
Foreign exchange contracts	$ 95,910	$ 510	$ 88,636	$ 303

The notional amounts for outstanding derivative instruments provide one measure of the transaction volume outstanding and do not represent the amount of the Company's exposure to credit or market loss. The credit risk amounts represent the Company's gross exposure to potential accounting loss on derivative instruments that are outstanding or unsettled if all counterparties failed to perform according to the terms of the contract, based on then-current currency or interest rates at each respective date. The Company's exposure to credit loss and market risk will vary over time as currency and interest rates change. Although the table above reflects the notional and credit risk amounts of the Company's derivative instruments, it does not reflect the gains or losses associated with the exposures and transactions that the instruments are intended to hedge. The amounts ultimately realized upon settlement of these financial instruments, together with the gains and losses on the underlying exposures, will depend on actual market conditions during the remaining life of the instruments.

The Company generally enters into master netting arrangements, which are designed to reduce credit risk by permitting net settlement of transactions with the same counterparty. To further limit credit risk, the Company generally enters into collateral security arrangements that provide for collateral to be received or posted when the net fair value of certain financial instruments fluctuates from contractually established thresholds. The Company presents its derivative assets and derivative liabilities at their gross fair values in its Condensed Consolidated Balance Sheets. As of June 26, 2021 and September 26, 2020, the net cash collateral received by the Company related to derivative instruments under its collateral security arrangements was $576 million and $875 million, respectively. The Company includes gross collateral posted and received in other current assets and other current liabilities in the Condensed Consolidated Balance Sheets, respectively.

Under master netting arrangements with the respective counterparties to the Company's derivative contracts, the Company is allowed to net settle transactions with a single net amount payable by one party to the other. As of June 26, 2021 and September 26, 2020, the potential effects of these rights of set-off associated with the Company's derivative contracts, including the effects of collateral, would be a reduction to both derivative assets and derivative liabilities of $2.2 billion and $2.8 billion, respectively, resulting in a net derivative asset of $6 million and a net derivative liability of $312 million, respectively.

Accounts Receivable

Trade Receivables

The Company has considerable trade receivables outstanding with its third-party cellular network carriers, wholesalers, retailers, resellers, small and mid-sized businesses and education, enterprise and government customers. The Company generally does not require collateral from its customers; however, the Company will require collateral or third-party credit support in certain instances to limit credit risk. In addition, when possible, the Company attempts to limit credit risk on trade receivables with credit insurance for certain customers or by requiring third-party financing, loans or leases to support credit exposure. These credit-financing arrangements are directly between the third-party financing company and the end customer. As such, the Company generally does not assume any recourse or credit risk sharing related to any of these arrangements.

As of both June 26, 2021 and September 26, 2020, the Company had no customers that individually represented 10% or more of total trade receivables. The Company's cellular network carriers accounted for 36% of total trade receivables as of June 26, 2021.

Vendor Non-Trade Receivables

The Company has non-trade receivables from certain of its manufacturing vendors resulting from the sale of components to these vendors who manufacture sub-assemblies or assemble final products for the Company. The Company purchases these components directly from suppliers. As of June 26, 2021, the Company had two vendors that individually represented 10% or more of total vendor non-trade receivables, which accounted for 56% and 13%. As of September 26, 2020, the Company had two vendors that individually represented 10% or more of total vendor non-trade receivables, which accounted for 57% and 11%.

Note 4 – Condensed Consolidated Financial Statement Details

The following tables show the Company's condensed consolidated financial statement details as of June 26, 2021 and September 26, 2020 (in millions):

Property, Plant and Equipment, Net

	June 26, 2021	September 26, 2020
Land and buildings	$ 19,149	$ 17,952
Machinery, equipment and internal-use software	78,981	75,291
Leasehold improvements	10,727	10,283
Gross property, plant and equipment	108,857	103,526
Accumulated depreciation and amortization	(70,242)	(66,760)
Total property, plant and equipment, net	$ 38,615	$ 36,766

Other Non-Current Liabilities

	June 26, 2021	September 26, 2020
Long-term taxes payable	$ 24,923	$ 28,170
Other non-current liabilities	27,131	26,320
Total other non-current liabilities	$ 52,054	$ 54,490

Other Income/(Expense), Net

The following table shows the detail of OI&E for the three- and nine-month periods ended June 26, 2021 and June 27, 2020 (in millions):

	Three Months Ended		Nine Months Ended	
	June 26, 2021	June 27, 2020	June 26, 2021	June 27, 2020
Interest and dividend income	$ 719	$ 901	$ 2,184	$ 2,995
Interest expense	(665)	(697)	(1,973)	(2,239)
Other income/(expense), net	189	(158)	585	(79)
Total other income/(expense), net	$ 243	$ 46	$ 796	$ 677

Note 5 – Income Taxes

Uncertain Tax Positions

As of June 26, 2021, the total amount of gross unrecognized tax benefits was $16.8 billion, of which $7.6 billion, if recognized, would impact the Company's effective tax rate. The Company had accrued $1.6 billion of gross interest and penalties related to income tax matters as of June 26, 2021.

The Company is subject to taxation and files income tax returns in the U.S. federal jurisdiction and many state and foreign jurisdictions. Tax years after 2015 for the U.S. federal jurisdiction, and after 2014 in certain major foreign jurisdictions, remain subject to examination. The Company believes that an adequate provision has been made for any adjustments that may result from tax examinations. However, the outcome of tax examinations cannot be predicted with certainty. If any issues addressed in the Company's tax examinations are resolved in a manner inconsistent with its expectations, the Company could be required to adjust its provision for income taxes in the period such resolution occurs. Although the timing of resolution and/or closure of examinations is not certain, the Company believes it is reasonably possible that its gross unrecognized tax benefits could decrease in the next 12 months by as much as $2.4 billion.

European Commission State Aid Decision

On August 30, 2016, the European Commission announced its decision that Ireland granted state aid to the Company by providing tax opinions in 1991 and 2007 concerning the tax allocation of profits of the Irish branches of two subsidiaries of the Company (the "State Aid Decision"). The State Aid Decision ordered Ireland to calculate and recover additional taxes from the Company for the period June 2003 through December 2014. Irish legislative changes, effective as of January 2015, eliminated the application of the tax opinions from that date forward. The recovery amount was calculated to be €13.1 billion, plus interest of €1.2 billion. The Company and Ireland appealed the State Aid Decision to the General Court of the Court of Justice of the European Union (the "General Court"). On July 15, 2020, the General Court annulled the State Aid Decision. On September 25, 2020, the European Commission appealed the General Court's decision to the European Court of Justice. The Company believes that any incremental Irish corporate income taxes potentially due related to the State Aid Decision would be creditable against U.S. taxes, subject to any foreign tax credit limitations in the U.S. Tax Cuts and Jobs Act of 2017.

On an annual basis, the Company may request approval from the Irish Minister for Finance to reduce the recovery amount for certain taxes paid to other countries. As of June 26, 2021, the adjusted recovery amount was €12.7 billion, excluding interest. The adjusted recovery amount plus interest is funded into escrow, where it will remain restricted from general use pending the conclusion of all legal proceedings. Refer to the Cash, Cash Equivalents and Marketable Securities section of Note 3, "Financial Instruments" for more information.

Note 6 – Debt

Commercial Paper and Repurchase Agreements

The Company issues unsecured short-term promissory notes ("Commercial Paper") pursuant to a commercial paper program. The Company uses net proceeds from the commercial paper program for general corporate purposes, including dividends and share repurchases. As of June 26, 2021 and September 26, 2020, the Company had $8.0 billion and $5.0 billion of Commercial Paper outstanding, respectively, with maturities generally less than nine months. The weighted-average interest rate of the Company's Commercial Paper was 0.04% and 0.62% as of June 26, 2021 and September 26, 2020, respectively. The following table provides a summary of cash flows associated with the issuance and maturities of Commercial Paper for the nine months ended June 26, 2021 and June 27, 2020 (in millions):

	Nine Months Ended	
	June 26, 2021	June 27, 2020
Maturities 90 days or less:		
Proceeds from commercial paper, net	$ 2,745	$ 401
Maturities greater than 90 days:		
Proceeds from commercial paper	3,993	5,373
Repayments of commercial paper	(3,716)	(5,743)
Proceeds from/(Repayments of) commercial paper, net	277	(370)
Total proceeds from commercial paper, net	$ 3,022	$ 31

In 2020, the Company entered into agreements to sell certain of its marketable securities with a promise to repurchase the securities at a specified time and amount ("Repos"). Due to the Company's continuing involvement with the marketable securities, the Company accounted for its Repos as collateralized borrowings. As of September 26, 2020, the Repos had been settled.

Term Debt

As of June 26, 2021, the Company had outstanding floating- and fixed-rate notes with varying maturities for an aggregate principal amount of $113.2 billion (collectively the "Notes"). The Notes are senior unsecured obligations and interest is payable in arrears. The following table provides a summary of the Company's term debt as of June 26, 2021 and September 26, 2020:

		June 26, 2021		September 26, 2020	
	Maturities (calendar year)	**Amount** (in millions)	**Effective Interest Rate**	**Amount** (in millions)	**Effective Interest Rate**
2013 – 2020 debt issuances:					
Floating-rate notes	2022	$ 1,750	0.51% – 0.66%	$ 2,250	0.60% – 1.39%
Fixed-rate 0.000% – 4.650% notes	2021 – 2060	97,443	0.03% – 4.78%	103,828	0.03% – 4.78%
2021 debt issuance:					
Fixed-rate 0.700% – 2.800% notes	2026 – 2061	14,000	0.75% – 2.81%	—	— %
Total term debt		113,193		106,078	
Unamortized premium/(discount) and issuance costs, net		(360)		(314)	
Hedge accounting fair value adjustments		958		1,676	
Less: Current portion of term debt		(8,039)		(8,773)	
Total non-current portion of term debt		$ 105,752		$ 98,667	

To manage interest rate risk on certain of its U.S. dollar–denominated fixed- or floating-rate notes, the Company has entered into interest rate swaps to effectively convert the fixed interest rates to floating interest rates or the floating interest rates to fixed interest rates on a portion of these notes. Additionally, to manage foreign currency risk on certain of its foreign currency–denominated notes, the Company has entered into foreign currency swaps to effectively convert these notes to U.S. dollar–denominated notes.

The effective interest rates for the Notes include the interest on the Notes, amortization of the discount or premium and, if applicable, adjustments related to hedging. The Company recognized $657 million and $1.9 billion of interest cost on its term debt for the three- and nine-month periods ended June 26, 2021, respectively. The Company recognized $664 million and $2.1 billion of interest cost on its term debt for the three- and nine-month periods ended June 27, 2020, respectively.

As of June 26, 2021 and September 26, 2020, the fair value of the Company's Notes, based on Level 2 inputs, was $120.3 billion and $117.1 billion, respectively.

Note 7 – Shareholders' Equity

Share Repurchase Program

As of June 26, 2021, the Company was authorized to purchase up to $315 billion of the Company's common stock under a share repurchase program (the "Program"). During the nine months ended June 26, 2021, the Company repurchased 515 million shares of its common stock for $65.5 billion, including 32 million shares initially delivered under a May 2021 accelerated share repurchase agreement ("ASR"), bringing the total utilization under the Program to $234.1 billion. The Program does not obligate the Company to acquire any specific number of shares. Under the Program, shares may be repurchased in privately negotiated and/or open market transactions, including under plans complying with Rule 10b5-1 under the Securities Exchange Act of 1934, as amended (the "Exchange Act").

Under the terms of the Company's May 2021 ASR, a financial institution committed to deliver shares of the Company's common stock during the purchase period in exchange for an up-front payment of $5.0 billion. The total number of shares ultimately delivered under the ASR, and therefore the average repurchase price paid per share, is determined based on the volume-weighted average price of the Company's common stock during the ASR's purchase period, which will end in or before August 2021. The shares received are retired in the periods they are delivered, and the up-front payment is accounted for as a reduction to retained earnings in the Company's Condensed Consolidated Statement of Shareholders' Equity in the period the payment is made.

Note 8 – Comprehensive Income

The Company's OCI consists of foreign currency translation adjustments from those subsidiaries not using the U.S. dollar as their functional currency, net deferred gains and losses on certain derivative instruments accounted for as hedges, and unrealized gains and losses on marketable debt securities classified as available-for-sale.

The following table shows the pre-tax amounts reclassified from AOCI into the Condensed Consolidated Statements of Operations, and the associated financial statement line items, for the three- and nine-month periods ended June 26, 2021 and June 27, 2020 (in millions):

		Three Months Ended		Nine Months Ended	
Comprehensive Income Components	**Financial Statement Line Items**	**June 26, 2021**	**June 27, 2020**	**June 26, 2021**	**June 27, 2020**
Unrealized (gains)/losses on derivative instruments:					
Foreign exchange contracts	Total net sales	$ 60	$ (270)	$ 478	$ (333)
	Total cost of sales	101	(362)	752	(521)
	Other income/(expense), net	(155)	(760)	(590)	(212)
Interest rate contracts	Other income/(expense), net	1	3	6	6
		7	(1,389)	646	(1,060)
Unrealized (gains)/losses on marketable debt securities	Other income/(expense), net	(70)	(14)	(284)	10
Total amounts reclassified from AOCI		$ (63)	$ (1,403)	$ 362	$ (1,050)

The following table shows the changes in AOCI by component for the nine months ended June 26, 2021 (in millions):

	Cumulative Foreign Currency Translation	**Unrealized Gains/Losses on Derivative Instruments**	**Unrealized Gains/Losses on Marketable Debt Securities**	**Total**
Balances as of September 26, 2020	$ (1,375)	$ (877)	$ 1,846	$ (406)
Other comprehensive income/(loss) before reclassifications	659	81	(783)	(43)
Amounts reclassified from AOCI	—	646	(284)	362
Tax effect	—	(130)	275	145
Other comprehensive income/(loss)	659	597	(792)	464
Balances as of June 26, 2021	$ (716)	$ (280)	$ 1,054	$ 58

Note 9 – Benefit Plans

Stock Plans

The Company had 757 million shares reserved for future issuance under its stock plans as of June 26, 2021. RSUs granted under the Company's stock plans generally vest over four years, based on continued employment, and are settled upon vesting in shares of the Company's common stock on a one-for-one basis. RSUs granted under the Company's stock plans reduce the number of shares available for grant under the plans by a factor of two times the number of RSUs granted. RSUs canceled and shares withheld to satisfy tax withholding obligations increase the number of shares available for grant under the plans utilizing a factor of two times the number of RSUs canceled or shares withheld.

Rule 10b5-1 Trading Plans

During the three months ended June 26, 2021, Section 16 officers Katherine L. Adams, Timothy D. Cook, Luca Maestri, Deirdre O'Brien and Jeffrey Williams had equity trading plans in place in accordance with Rule 10b5-1(c)(1) under the Exchange Act. An equity trading plan is a written document that pre-establishes the amounts, prices and dates (or formula for determining the amounts, prices and dates) of future purchases or sales of the Company's stock, including shares acquired under the Company's employee and director equity plans.

Restricted Stock Units

A summary of the Company's RSU activity and related information for the nine months ended June 26, 2021 is as follows:

	Number of RSUs (in thousands)	Weighted-Average Grant Date Fair Value Per RSU	Aggregate Fair Value (in millions)
Balance as of September 26, 2020	310,778	$ 51.58	
RSUs granted	85,052	$ 114.68	
RSUs vested	(134,462)	$ 51.59	
RSUs canceled	(10,396)	$ 67.08	
Balance as of June 26, 2021	250,972	$ 72.31	$ 33,407

The fair value as of the respective vesting dates of RSUs was $7.9 billion and $17.3 billion for the three- and nine-month periods ended June 26, 2021, respectively, and was $5.0 billion and $9.8 billion for the three- and nine-month periods ended June 27, 2020, respectively.

Share-Based Compensation

The following table shows share-based compensation expense and the related income tax benefit included in the Condensed Consolidated Statements of Operations for the three- and nine-month periods ended June 26, 2021 and June 27, 2020 (in millions):

	Three Months Ended		Nine Months Ended	
	June 26, 2021	June 27, 2020	June 26, 2021	June 27, 2020
Share-based compensation expense	$ 1,960	$ 1,698	$ 5,961	$ 5,105
Income tax benefit related to share-based compensation expense	$ (1,319)	$ (740)	$ (3,518)	$ (1,942)

As of June 26, 2021, the total unrecognized compensation cost related to outstanding RSUs and stock options was $15.3 billion, which the Company expects to recognize over a weighted-average period of 2.7 years.

Note 10 – Commitments and Contingencies

Accrued Warranty and Guarantees

The following table shows changes in the Company's accrued warranties and related costs for the three- and nine-month periods ended June 26, 2021 and June 27, 2020 (in millions):

	Three Months Ended		Nine Months Ended	
	June 26, 2021	June 27, 2020	June 26, 2021	June 27, 2020
Beginning accrued warranty and related costs	$ 3,784	$ 3,923	$ 3,354	$ 3,570
Cost of warranty claims	(636)	(576)	(2,008)	(2,180)
Accruals for product warranty	384	557	2,186	2,514
Ending accrued warranty and related costs	$ 3,532	$ 3,904	$ 3,532	$ 3,904

The Company offers an iPhone Upgrade Program, which is available to customers who purchase a qualifying iPhone in the U.S., the U.K. and China mainland. The iPhone Upgrade Program provides customers the right to trade in that iPhone for a specified amount when purchasing a new iPhone, provided certain conditions are met. The Company accounts for the trade-in right as a guarantee liability and recognizes arrangement revenue net of the fair value of such right, with subsequent changes to the guarantee liability recognized within net sales.

Concentrations in the Available Sources of Supply of Materials and Product

Although most components essential to the Company's business are generally available from multiple sources, certain components are currently obtained from single or limited sources. The Company also competes for various components with other participants in the markets for smartphones, personal computers, tablets and other electronic devices. Therefore, many components used by the Company, including those that are available from multiple sources, are at times subject to industry-wide shortage and significant commodity pricing fluctuations.

The Company uses some custom components that are not commonly used by its competitors, and new products introduced by the Company often utilize custom components available from only one source. When a component or product uses new technologies, initial capacity constraints may exist until the suppliers' yields have matured or their manufacturing capacities have increased. The continued availability of these components at acceptable prices, or at all, may be affected if suppliers decide to concentrate on the production of common components instead of components customized to meet the Company's requirements.

The Company has entered into agreements for the supply of many components; however, there can be no guarantee that the Company will be able to extend or renew these agreements on similar terms, or at all.

Substantially all of the Company's hardware products are manufactured by outsourcing partners that are located primarily in Asia, with some Mac computers manufactured in the U.S. and Ireland.

Unconditional Purchase Obligations

The Company has entered into certain off–balance sheet commitments that require the future purchase of goods or services ("unconditional purchase obligations"). The Company's unconditional purchase obligations primarily consist of payments for content creation, Internet and telecommunications services and supplier arrangements. As of June 26, 2021, the Company's total future payments under noncancelable unconditional purchase obligations having a remaining term in excess of one year were $8.8 billion.

Contingencies

The Company is subject to various legal proceedings and claims that have arisen in the ordinary course of business and that have not been fully resolved. The outcome of litigation is inherently uncertain. When a loss related to a legal proceeding or claim is probable and reasonably estimable, the Company accrues its best estimate for the ultimate resolution of the matter. If one or more legal matters were resolved against the Company in a reporting period for amounts above management's expectations, the Company's financial condition and operating results for that reporting period could be materially adversely affected. In the opinion of management, there was not at least a reasonable possibility the Company may have incurred a material loss, or a material loss greater than a recorded accrual, concerning loss contingencies for asserted legal and other claims, except for the following matters:

VirnetX

VirnetX, Inc. ("VirnetX") filed a lawsuit against the Company alleging that certain of the Company's products infringe on patents owned by VirnetX. On April 11, 2018, a jury returned a verdict against the Company in the U.S. District Court for the Eastern District of Texas (the "Eastern Texas District Court"). The Company appealed the verdict to the U.S. Court of Appeals for the Federal Circuit, which remanded the case back to the Eastern Texas District Court, where a re-trial was held in October 2020. The jury returned a verdict against the Company and awarded damages of $503 million, which the Company has appealed. The Company has challenged the validity of the patents at issue in the re-trial at the U.S. Patent and Trademark Office (the "PTO"), and the PTO has declared the patents invalid, subject to further appeal by VirnetX.

iOS Performance Management Cases

On April 5, 2018, several U.S. federal actions alleging violation of consumer protection laws, fraud, computer intrusion and other causes of action related to the Company's performance management feature used in its iPhone operating systems, introduced to certain iPhones in iOS updates 10.2.1 and 11.2, were consolidated through a Multidistrict Litigation process into a single action in the U.S. District Court for the Northern District of California (the "Northern California District Court"). On February 28, 2020, the parties in the Multidistrict Litigation reached a settlement to resolve the U.S. federal and California state class actions. On March 18, 2021, the Northern California District Court granted final approval of the Multidistrict Litigation settlement, which will result in an aggregate payment of $310 million to settle all claims. The Company continues to believe that its iPhones were not defective, that the performance management feature introduced with iOS updates 10.2.1 and 11.2 was intended to, and did, improve customers' user experience, and that the Company did not make any misleading statements or fail to disclose any material information.

French Competition Authority

On March 16, 2020, the French Competition Authority ("FCA") announced its decision that aspects of the Company's sales and distribution practices in France violate French competition law and issued a fine of €1.1 billion. The Company strongly disagrees with the FCA's decision and has appealed.

Optis

Optis Wireless Technology, LLC and related entities ("Optis") filed a lawsuit in the U.S. District Court for the Eastern District of Texas against the Company alleging that certain of the Company's products infringe on patents owned by Optis. On August 11, 2020, a jury returned a verdict against the Company and awarded damages of $506 million. In post-trial proceedings, the damages portion of the verdict was set aside, and a retrial was scheduled for August 2021. The case remains pending further proceedings.

Note 11 – Segment Information and Geographic Data

The Company reports segment information based on the "management" approach. The management approach designates the internal reporting used by management for making decisions and assessing performance as the source of the Company's reportable segments.

The Company manages its business primarily on a geographic basis. The Company's reportable segments consist of the Americas, Europe, Greater China, Japan and Rest of Asia Pacific. Americas includes both North and South America. Europe includes European countries, as well as India, the Middle East and Africa. Greater China includes China mainland, Hong Kong and Taiwan. Rest of Asia Pacific includes Australia and those Asian countries not included in the Company's other reportable segments. Although the reportable segments provide similar hardware and software products and similar services, each one is managed separately to better align with the location of the Company's customers and distribution partners and the unique market dynamics of each geographic region. The accounting policies of the various segments are the same as those described in Note 1, "Summary of Significant Accounting Policies" of the Notes to Consolidated Financial Statements in Part II, Item 8 of the 2020 Form 10-K.

The Company evaluates the performance of its reportable segments based on net sales and operating income. Net sales for geographic segments are generally based on the location of customers and sales through the Company's retail stores located in those geographic locations. Operating income for each segment includes net sales to third parties, related cost of sales and operating expenses directly attributable to the segment. Advertising expenses are generally included in the geographic segment in which the expenditures are incurred. Operating income for each segment excludes other income and expense and certain expenses managed outside the reportable segments. Costs excluded from segment operating income include various corporate expenses such as research and development, corporate marketing expenses, certain share-based compensation expenses, income taxes, various nonrecurring charges and other separately managed general and administrative costs. The Company does not include intercompany transfers between segments for management reporting purposes.

The following table shows information by reportable segment for the three- and nine-month periods ended June 26, 2021 and June 27, 2020 (in millions):

	Three Months Ended		Nine Months Ended	
	June 26, 2021	June 27, 2020	June 26, 2021	June 27, 2020
Americas:				
Net sales	$ 35,870	$ 27,018	$ 116,486	$ 93,858
Operating income	$ 12,916	$ 7,974	$ 40,751	$ 28,327
Europe:				
Net sales	$ 18,943	$ 14,173	$ 68,513	$ 51,740
Operating income	$ 7,085	$ 4,420	$ 24,939	$ 16,667
Greater China:				
Net sales	$ 14,762	$ 9,329	$ 53,803	$ 32,362
Operating income	$ 6,303	$ 3,414	$ 22,591	$ 12,535
Japan:				
Net sales	$ 6,464	$ 4,966	$ 22,491	$ 16,395
Operating income	$ 3,031	$ 2,114	$ 9,962	$ 7,128
Rest of Asia Pacific:				
Net sales	$ 5,395	$ 4,199	$ 21,164	$ 15,462
Operating income	$ 2,116	$ 1,374	$ 7,805	$ 5,395

A reconciliation of the Company's segment operating income to the Condensed Consolidated Statements of Operations for the three- and nine-month periods ended June 26, 2021 and June 27, 2020 is as follows (in millions):

	Three Months Ended		Nine Months Ended	
	June 26, 2021	June 27, 2020	June 26, 2021	June 27, 2020
Segment operating income	$ 31,451	$ 19,296	$ 106,048	$ 70,052
Research and development expense	(5,717)	(4,758)	(16,142)	(13,774)
Other corporate expenses, net	(1,608)	(1,447)	(4,743)	(4,765)
Total operating income	$ 24,126	$ 13,091	$ 85,163	$ 51,513

Item 2. Management's Discussion and Analysis of Financial Condition and Results of Operations

This section and other parts of this Quarterly Report on Form 10-Q ("Form 10-Q") contain forward-looking statements, within the meaning of the Private Securities Litigation Reform Act of 1995, that involve risks and uncertainties. Forward-looking statements provide current expectations of future events based on certain assumptions and include any statement that does not directly relate to any historical or current fact. For example, statements in this Form 10-Q regarding the potential future impact of the COVID-19 pandemic on the Company's business and results of operations are forward-looking statements. Forward-looking statements can also be identified by words such as "future," "anticipates," "believes," "estimates," "expects," "intends," "plans," "predicts," "will," "would," "could," "can," "may," and similar terms. Forward-looking statements are not guarantees of future performance and the Company's actual results may differ significantly from the results discussed in the forward-looking statements. Factors that might cause such differences include, but are not limited to, those discussed in Part I, Item 1A of the Company's Annual Report on Form 10-K for the fiscal year ended September 26, 2020 (the "2020 Form 10-K") under the heading "Risk Factors." The Company assumes no obligation to revise or update any forward-looking statements for any reason, except as required by law.

Unless otherwise stated, all information presented herein is based on the Company's fiscal calendar, and references to particular years, quarters, months or periods refer to the Company's fiscal years ended in September and the associated quarters, months and periods of those fiscal years. Each of the terms the "Company" and "Apple" as used herein refers collectively to Apple Inc. and its wholly owned subsidiaries, unless otherwise stated.

The following discussion should be read in conjunction with the 2020 Form 10-K filed with the U.S. Securities and Exchange Commission (the "SEC") and the condensed consolidated financial statements and accompanying notes included in Part I, Item 1 of this Form 10-Q.

Available Information

The Company periodically provides certain information for investors on its corporate website, www.apple.com, and its investor relations website, investor.apple.com. This includes press releases and other information about financial performance, information on corporate governance and details related to the Company's annual meeting of shareholders. The information contained on the websites referenced in this Form 10-Q is not incorporated by reference into this filing. Further, the Company's references to website URLs are intended to be inactive textual references only.

Quarterly Highlights

Business Seasonality and Product Introductions

The Company has historically experienced higher net sales in its first quarter compared to other quarters in its fiscal year due in part to seasonal holiday demand. Additionally, new product and service introductions can significantly impact net sales, cost of sales and operating expenses. The timing of product introductions can also impact the Company's net sales to its indirect distribution channels as these channels are filled with new inventory following a product launch, and channel inventory of an older product often declines as the launch of a newer product approaches. Net sales can also be affected when consumers and distributors anticipate a product introduction.

COVID-19 Update

The COVID-19 pandemic has prompted governments and businesses to take unprecedented measures, such as restrictions on travel and business operations, temporary closures of businesses, and quarantines and shelter-in-place orders. The COVID-19 pandemic has significantly curtailed global economic activity and caused significant volatility and disruption in global financial markets. The COVID-19 pandemic and the measures taken by many countries in response have affected and could in the future materially impact the Company's business, results of operations, financial condition and stock price.

During the third quarter of 2021, aspects of the Company's business continued to be affected by the COVID-19 pandemic, with many of the Company's retail stores, as well as channel partner points of sale, temporarily closed at various times, and a significant number of the Company's employees working remotely. The Company has reopened substantially all of its offices and retail stores, subject to operating restrictions to protect public health and the health and safety of employees and customers, and it continues to work on safely reopening the remainder of its offices and retail stores, subject to local rules and regulations.

The extent of the continuing impact of the COVID-19 pandemic on the Company's operational and financial performance is uncertain and will depend on many factors outside the Company's control, including, without limitation, the timing, extent, trajectory and duration of the pandemic; the availability, distribution and effectiveness of vaccines; the imposition of protective public safety measures; and the impact of the pandemic on the global economy and demand for consumer products. Refer to Part I, Item 1A of the 2020 Form 10-K under the heading "Risk Factors," for more information.

The Company believes its existing balances of cash, cash equivalents and marketable securities, along with commercial paper and other short-term liquidity arrangements, will be sufficient to satisfy its working capital needs, capital asset purchases, dividends, share repurchases, debt repayments and other liquidity requirements associated with its existing operations.

Third Quarter Fiscal 2021 Highlights

Total net sales increased 36% or $21.7 billion during the third quarter of 2021 compared to the same quarter in 2020, driven by growth in all Products and Services categories. Year-over-year net sales during the third quarter of 2021 also grew in each of the Company's reportable segments.

During the third quarter of 2021, the Company released the following new products and services:

- iMac®, powered by the Apple M1 chip;
- iPad Pro®, powered by the Apple M1 chip;
- Apple TV 4K®, with a redesigned Siri Remote®;
- AirTag™, an accessory that helps keep track of items using the Find My™ network; and
- Apple Podcasts® Subscriptions.

The Company also announced iOS 15, macOS® Monterey, iPadOS® 15 and watchOS® 8, updates to its operating systems that are expected to be available in the fall of 2021.

The Company repurchased $22.5 billion of its common stock and paid dividends and dividend equivalents of $3.8 billion during the third quarter of 2021.

Products and Services Performance

The following table shows net sales by category for the three- and nine-month periods ended June 26, 2021 and June 27, 2020 (dollars in millions):

	Three Months Ended			Nine Months Ended		
	June 26, 2021	June 27, 2020	Change	June 26, 2021	June 27, 2020	Change
Net sales by category:						
iPhone (1)	$ 39,570	$ 26,418	50 %	$ 153,105	$ 111,337	38 %
Mac (1)	8,235	7,079	16 %	26,012	19,590	33 %
iPad (1)	7,368	6,582	12 %	23,610	16,927	39 %
Wearables, Home and Accessories (1)(2)	8,775	6,450	36 %	29,582	22,744	30 %
Services (3)	17,486	13,156	33 %	50,148	39,219	28 %
Total net sales	$ 81,434	$ 59,685	36 %	$ 282,457	$ 209,817	35 %

(1) Products net sales include amortization of the deferred value of unspecified software upgrade rights, which are bundled in the sales price of the respective product.

(2) Wearables, Home and Accessories net sales include sales of AirPods, Apple TV, Apple Watch, Beats products, HomePod, iPod touch and Apple-branded and third-party accessories.

(3) Services net sales include sales from the Company's advertising, AppleCare, digital content and other services. Services net sales also include amortization of the deferred value of Maps, Siri, and free iCloud storage and Apple TV+ services, which are bundled in the sales price of certain products.

iPhone

iPhone net sales increased during the third quarter and first nine months of 2021 compared to the same periods in 2020 due primarily to higher net sales from the Company's new iPhone models launched in the first quarter of 2021.

Mac

Mac net sales increased during the third quarter of 2021 compared to the third quarter of 2020 due primarily to higher net sales of MacBook Air® and iMac. Year-over-year Mac net sales increased during the first nine months of 2021 due primarily to higher net sales of MacBook Air and MacBook Pro®.

iPad

iPad net sales increased during the third quarter of 2021 compared to the third quarter of 2020 due to higher net sales of iPad Air®. Year-over-year iPad net sales increased during the first nine months of 2021 due to higher net sales of iPad Air, iPad Pro and the 10-inch version of iPad.

Wearables, Home and Accessories

Wearables, Home and Accessories net sales increased during the third quarter and first nine months of 2021 compared to the same periods in 2020 due primarily to higher net sales of Apple Watch and accessories.

Services

Services net sales increased during the third quarter of 2021 compared to the third quarter of 2020 due primarily to higher net sales from advertising, the App Store and AppleCare. Year-over-year Services net sales increased during the first nine months of 2021 due primarily to higher net sales from advertising, the App Store and cloud services.

Segment Operating Performance

The Company manages its business primarily on a geographic basis. The Company's reportable segments consist of the Americas, Europe, Greater China, Japan and Rest of Asia Pacific. Americas includes both North and South America. Europe includes European countries, as well as India, the Middle East and Africa. Greater China includes China mainland, Hong Kong and Taiwan. Rest of Asia Pacific includes Australia and those Asian countries not included in the Company's other reportable segments. Although the reportable segments provide similar hardware and software products and similar services, each one is managed separately to better align with the location of the Company's customers and distribution partners and the unique market dynamics of each geographic region. Further information regarding the Company's reportable segments can be found in Part I, Item 1 of this Form 10-Q in the Notes to Condensed Consolidated Financial Statements in Note 11, "Segment Information and Geographic Data."

The following table shows net sales by reportable segment for the three- and nine-month periods ended June 26, 2021 and June 27, 2020 (dollars in millions):

	Three Months Ended			Nine Months Ended		
	June 26, 2021	June 27, 2020	Change	June 26, 2021	June 27, 2020	Change
Net sales by reportable segment:						
Americas	$ 35,870	$ 27,018	33 %	$ 116,486	$ 93,858	24 %
Europe	18,943	14,173	34 %	68,513	51,740	32 %
Greater China	14,762	9,329	58 %	53,803	32,362	66 %
Japan	6,464	4,966	30 %	22,491	16,395	37 %
Rest of Asia Pacific	5,395	4,199	28 %	21,164	15,462	37 %
Total net sales	$ 81,434	$ 59,685	36 %	$ 282,457	$ 209,817	35 %

Americas

Americas net sales increased during the third quarter of 2021 compared to the third quarter of 2020 due primarily to higher net sales of iPhone, Services and Wearables, Home and Accessories. Year-over-year Americas net sales increased during the first nine months of 2021 due primarily to higher net sales of iPhone, Services and Mac.

Europe

Europe net sales increased during the third quarter of 2021 compared to the third quarter of 2020 due primarily to higher net sales of iPhone, Services and Wearables, Home and Accessories. Year-over-year Europe net sales increased during the first nine months of 2021 due primarily to higher net sales of iPhone, iPad and Mac. The movement of foreign currencies in Europe relative to the U.S. dollar had a net favorable impact on Europe net sales during the third quarter and first nine months of 2021.

Greater China

Greater China net sales increased during the third quarter of 2021 compared to the third quarter of 2020 due primarily to higher net sales of iPhone and Services. Year-over-year Greater China net sales increased during the first nine months of 2021 due primarily to higher net sales of iPhone and iPad. The strength of the Chinese renminbi relative to the U.S. dollar had a favorable impact on Greater China net sales during the third quarter and first nine months of 2021.

Japan

Japan net sales increased during the third quarter of 2021 compared to the third quarter of 2020 due primarily to higher net sales of iPhone. Year-over-year Japan net sales increased during the first nine months of 2021 due primarily to higher net sales of iPhone and Services. The strength of the Japanese yen relative to the U.S. dollar had a favorable impact on Japan net sales during the first nine months of 2021.

Rest of Asia Pacific

Rest of Asia Pacific net sales increased during the third quarter and first nine months of 2021 compared to the same periods in 2020 due primarily to higher net sales of iPhone, Wearables, Home and Accessories and Services. The movement of foreign currencies in the Rest of Asia Pacific relative to the U.S. dollar had a favorable impact on Rest of Asia Pacific net sales during the third quarter and first nine months of 2021.

Gross Margin

Products and Services gross margin and gross margin percentage for the three- and nine-month periods ended June 26, 2021 and June 27, 2020 were as follows (dollars in millions):

	Three Months Ended		Nine Months Ended	
	June 26, 2021	June 27, 2020	June 26, 2021	June 27, 2020
Gross margin:				
Products	$ 23,049	$ 13,836	$ 82,833	$ 54,509
Services	12,206	8,844	34,829	25,758
Total gross margin	$ 35,255	$ 22,680	$ 117,662	$ 80,267
Gross margin percentage:				
Products	36.0 %	29.7 %	35.7 %	32.0 %
Services	69.8 %	67.2 %	69.5 %	65.7 %
Total gross margin percentage	43.3 %	38.0 %	41.7 %	38.3 %

Products Gross Margin

Products gross margin increased during the third quarter and first nine months of 2021 compared to the same periods in 2020 due primarily to higher Products volume, a different Products mix and the strength in foreign currencies relative to the U.S. dollar.

Products gross margin percentage increased during the third quarter of 2021 compared to the third quarter of 2020 due primarily to a different Products mix, the strength in foreign currencies relative to the U.S. dollar and improved leverage. Year-over-year Products gross margin percentage increased during the first nine months of 2021 due primarily to improved leverage, a different Products mix and the strength in foreign currencies relative to the U.S. dollar.

Services Gross Margin

Services gross margin increased during the third quarter and first nine months of 2021 compared to the same periods in 2020 due primarily to higher Services net sales, a different Services mix and the strength in foreign currencies relative to the U.S. dollar.

Year-over-year Services gross margin percentage increased during the third quarter and first nine months of 2021 due primarily to a different Services mix and improved leverage, partially offset by higher Services costs.

The Company's future gross margins can be impacted by a variety of factors, as discussed in Part I, Item 1A of the 2020 Form 10-K under the heading "Risk Factors." As a result, the Company believes, in general, gross margins will be subject to volatility and downward pressure.

Operating Expenses

Operating expenses for the three- and nine-month periods ended June 26, 2021 and June 27, 2020 were as follows (dollars in millions):

	Three Months Ended		Nine Months Ended	
	June 26, 2021	June 27, 2020	June 26, 2021	June 27, 2020
Research and development	$ 5,717	$ 4,758	$ 16,142	$ 13,774
Percentage of total net sales	7 %	8 %	6 %	7 %
Selling, general and administrative	$ 5,412	$ 4,831	$ 16,357	$ 14,980
Percentage of total net sales	7 %	8 %	6 %	7 %
Total operating expenses	$ 11,129	$ 9,589	$ 32,499	$ 28,754
Percentage of total net sales	14 %	16 %	12 %	14 %

Research and Development

The growth in research and development ("R&D") expense during the third quarter of 2021 compared to the third quarter of 2020 was driven primarily by increases in headcount-related expenses, and material and equipment costs. Year-over-year R&D expense increased during the first nine months of 2021 due primarily to higher headcount-related expenses and R&D-related professional services. The Company continues to believe that focused investments in R&D are critical to its future growth and competitive position in the marketplace, and to the development of new and updated products and services that are central to the Company's core business strategy.

Selling, General and Administrative

The growth in selling, general and administrative expense during the third quarter of 2021 compared to the third quarter of 2020 was driven primarily by increases in headcount-related and advertising expenses. Year-over-year selling, general and administrative expense increased during the first nine months of 2021 due primarily to higher headcount-related and variable selling expenses.

Other Income/(Expense), Net

Other income/(expense), net ("OI&E") for the three- and nine-month periods ended June 26, 2021 and June 27, 2020 was as follows (dollars in millions):

	Three Months Ended			Nine Months Ended		
	June 26, 2021	June 27, 2020	Change	June 26, 2021	June 27, 2020	Change
Interest and dividend income	$ 719	$ 901		$ 2,184	$ 2,995	
Interest expense	(665)	(697)		(1,973)	(2,239)	
Other income/(expense), net	189	(158)		585	(79)	
Total other income/(expense), net	$ 243	$ 46	428 %	$ 796	$ 677	18 %

OI&E increased during the third quarter of 2021 compared to the third quarter of 2020 due primarily to a favorable carrying value adjustment of non-marketable securities and smaller impairments of securities, partially offset by lower interest income. Year-over-year OI&E increased during the first nine months of 2021 due primarily to smaller impairments of securities, lower interest expense and favorable carrying value adjustments of non-marketable securities, partially offset by lower interest income.

The weighted-average interest rate earned by the Company on its cash, cash equivalents and marketable securities was 1.32% and 1.74% in the third quarter of 2021 and 2020, respectively, and 1.40% and 1.95% in the first nine months of 2021 and 2020, respectively.

Provision for Income Taxes

Provision for income taxes, effective tax rate and statutory federal income tax rate for the three- and nine-month periods ended June 26, 2021 and June 27, 2020 were as follows (dollars in millions):

	Three Months Ended		Nine Months Ended	
	June 26, 2021	June 27, 2020	June 26, 2021	June 27, 2020
Provision for income taxes	$ 2,625	$ 1,884	$ 11,830	$ 7,452
Effective tax rate	10.8 %	14.3 %	13.8 %	14.3 %
Statutory federal income tax rate	21 %	21 %	21 %	21 %

The Company's effective tax rate for the third quarter and first nine months of 2021 was lower than the statutory federal income tax rate due primarily to a lower effective rate on foreign earnings, tax benefits from share-based compensation, and the favorable impact of changes in unrecognized tax benefits, partially offset by state income taxes.

The Company's effective tax rate for the third quarter of 2021 was lower compared to the third quarter of 2020 due primarily to the favorable impact of changes in unrecognized tax benefits, a higher mix of foreign earnings, and higher tax benefits from share-based compensation. The Company's effective tax rate for the first nine months of 2021 was lower compared to the same period in 2020 due primarily to higher tax benefits from share-based compensation, the favorable impact of changes in unrecognized tax benefits, and a higher mix of foreign earnings, partially offset by a one-time adjustment in 2020 of U.S. foreign tax credits in response to regulations issued by the U.S. Department of the Treasury in December 2019.

Liquidity and Capital Resources

The following tables present selected financial information and statistics as of June 26, 2021 and September 26, 2020 and for the first nine months of 2021 and 2020 (in millions):

	June 26, 2021	September 26, 2020
Cash, cash equivalents and marketable securities [(1)]	$ 193,644	$ 191,830
Property, plant and equipment, net	$ 38,615	$ 36,766
Commercial paper	$ 8,000	$ 4,996
Total term debt	$ 113,791	$ 107,440
Working capital	$ 6,669	$ 38,321

	Nine Months Ended	
	June 26, 2021	June 27, 2020
Cash generated by operating activities	$ 83,838	$ 60,098
Cash used in investing activities	$ (15,380)	$ (9,820)
Cash used in financing activities	$ (72,971)	$ (65,463)

(1) As of June 26, 2021 and September 26, 2020, total marketable securities included $18.9 billion and $18.6 billion, respectively, that was restricted from general use, related to the State Aid Decision (refer to Note 5, "Income Taxes" in the Notes to Condensed Consolidated Financial Statements in Part I, Item 1 of this Form 10-Q) and other agreements.

The Company believes its existing balances of cash, cash equivalents and marketable securities, along with commercial paper and other short-term liquidity arrangements, will be sufficient to satisfy its working capital needs, capital asset purchases, dividends, share repurchases, debt repayments and other liquidity requirements associated with its existing operations over the next 12 months.

In connection with the State Aid Decision, as of June 26, 2021, the adjusted recovery amount of €12.7 billion plus interest of €1.2 billion was funded into escrow, where it will remain restricted from general use pending the conclusion of all legal proceedings. Further information regarding the State Aid Decision can be found in Part I, Item 1 of this Form 10-Q in the Notes to Condensed Consolidated Financial Statements in Note 5, "Income Taxes."

The Company's marketable securities investment portfolio is primarily invested in highly rated securities, with the primary objective of minimizing the potential risk of principal loss. The Company's investment policy generally requires securities to be investment grade and limits the amount of credit exposure to any one issuer.

During the nine months ended June 26, 2021, cash generated by operating activities of $83.8 billion was a result of $74.1 billion of net income, non-cash adjustments to net income of $12.8 billion and a decrease in the net change in operating assets and liabilities of $3.1 billion. Cash used in investing activities of $15.4 billion during the nine months ended June 26, 2021 consisted primarily of cash used for purchases of marketable securities, net of maturities and sales, of $7.4 billion and cash used to acquire property, plant and equipment of $7.9 billion. Cash used in financing activities of $73.0 billion during the nine months ended June 26, 2021 consisted primarily of cash used to repurchase common stock of $66.2 billion, cash used to pay dividends and dividend equivalents of $10.8 billion and cash used to repay or redeem term debt of $7.5 billion, partially offset by net proceeds from issuance of term debt of $13.9 billion.

During the nine months ended June 27, 2020, cash generated by operating activities of $60.1 billion was a result of $44.7 billion of net income, non-cash adjustments to net income of $13.5 billion and an increase in the net change in operating assets and liabilities of $1.8 billion. Cash used in investing activities of $9.8 billion during the nine months ended June 27, 2020 consisted primarily of cash used for purchases of marketable securities, net of maturities and sales, of $2.0 billion and cash used to acquire property, plant and equipment of $5.5 billion. Cash used in financing activities of $65.5 billion during the nine months ended June 27, 2020 consisted primarily of cash used to repurchase common stock of $55.2 billion, cash used to pay dividends and dividend equivalents of $10.6 billion and cash used to repay or redeem term debt of $12.6 billion, partially offset by net proceeds from issuance of term debt of $10.6 billion and proceeds from repurchase agreements of $5.2 billion.

Debt

The Company issues unsecured short-term promissory notes (“Commercial Paper”) pursuant to a commercial paper program. The Company uses the net proceeds from the commercial paper program for general corporate purposes, including dividends and share repurchases. As of June 26, 2021, the Company had $8.0 billion of Commercial Paper outstanding, with a weighted-average interest rate of 0.04% and maturities generally less than nine months.

As of June 26, 2021, the Company had outstanding floating- and fixed-rate notes with varying maturities for an aggregate principal amount of $113.2 billion (collectively the “Notes”). During the first nine months of 2021, the Company issued $13.9 billion and repaid or redeemed $7.5 billion of Notes. The Company has entered, and in the future may enter, into interest rate swaps to manage interest rate risk on the Notes. In addition, the Company has entered, and in the future may enter, into foreign currency swaps to manage foreign currency risk on the Notes.

Further information regarding the Company’s debt issuances and related hedging activity can be found in Part I, Item 1 of this Form 10-Q in the Notes to Condensed Consolidated Financial Statements in Note 3, “Financial Instruments” and Note 6, “Debt.”

Capital Return

As of June 26, 2021, the Company was authorized to purchase up to $315 billion of the Company’s common stock under a share repurchase program (the “Program”). During the nine months ended June 26, 2021, the Company repurchased 515 million shares of its common stock for $65.5 billion, including 32 million shares initially delivered under a $5.0 billion accelerated share repurchase agreement (“ASR”) entered into in May 2021, bringing the total utilization under the Program to $234.1 billion. The Program does not obligate the Company to acquire any specific number of shares. Under the Program, shares may be repurchased in privately negotiated and/or open market transactions, including under plans complying with Rule 10b5-1 under the Securities Exchange Act of 1934, as amended (the “Exchange Act”).

As of June 26, 2021, the Company’s quarterly cash dividend was $0.22 per share. The Company intends to increase its dividend on an annual basis, subject to declaration by the Board of Directors.

Contractual Obligations

Leases

The Company has lease arrangements for certain equipment and facilities, including retail, corporate, manufacturing and data center space. The Company’s retail store and other facility leases typically have original terms not exceeding 10 years and generally contain multi-year renewal options. The Company’s total fixed lease payment obligation of $13.7 billion as of June 26, 2021 included future payments under leases that had commenced as of June 26, 2021, and were therefore recorded on the Company’s Condensed Consolidated Balance Sheet, as well as leases that had been signed but not yet commenced as of June 26, 2021.

Manufacturing Purchase Obligations

The Company utilizes several outsourcing partners to manufacture sub-assemblies for the Company's products and to perform final assembly and testing of finished products. These outsourcing partners acquire components and build product based on demand information supplied by the Company, which typically covers periods up to 150 days. The Company also obtains individual components for its products from a wide variety of individual suppliers. As of June 26, 2021, the Company expects to pay $38.2 billion under manufacturing-related supplier arrangements, which are primarily noncancelable.

Other Purchase Obligations

The Company's other purchase obligations primarily consist of noncancelable obligations to acquire capital assets, including product tooling and manufacturing process equipment, and noncancelable obligations related to advertising, content creation and Internet and telecommunications services. As of June 26, 2021, the Company had other purchase obligations of $9.1 billion.

Deemed Repatriation Tax Payable

As of June 26, 2021, the balance of the deemed repatriation tax payable imposed by the U.S. Tax Cuts and Jobs Act (the "Act") was $24.9 billion, all of which was included in other non-current liabilities in the Company's Condensed Consolidated Balance Sheet. The Company pays the deemed repatriation tax payable in installments in accordance with the Act.

Other Non-Current Liabilities

The Company's remaining other non-current liabilities primarily consist of items for which the Company is unable to make a reasonably reliable estimate of the timing or amount of payments.

Critical Accounting Policies and Estimates

The preparation of financial statements and related disclosures in conformity with U.S. generally accepted accounting principles and the Company's discussion and analysis of its financial condition and operating results require the Company's management to make judgments, assumptions and estimates that affect the amounts reported. Management bases its estimates on historical experience and on various other assumptions it believes to be reasonable under the circumstances, the results of which form the basis for making judgments about the carrying values of assets and liabilities. Actual results may differ from these estimates, and such differences may be material.

Note 1, "Summary of Significant Accounting Policies" in Part I, Item 1 of this Form 10-Q and in the Notes to Consolidated Financial Statements in Part II, Item 8 of the 2020 Form 10-K, and "Critical Accounting Policies and Estimates" in Part II, Item 7 of the 2020 Form 10-K describe the significant accounting policies and methods used in the preparation of the Company's condensed consolidated financial statements. There have been no material changes to the Company's critical accounting policies and estimates since the 2020 Form 10-K.

Item 3. Quantitative and Qualitative Disclosures About Market Risk

There have been no material changes to the Company's market risk during the first nine months of 2021. For a discussion of the Company's exposure to market risk, refer to the Company's market risk disclosures set forth in Part II, Item 7A, "Quantitative and Qualitative Disclosures About Market Risk" of the 2020 Form 10-K.

Item 4. Controls and Procedures

Evaluation of Disclosure Controls and Procedures

Based on an evaluation under the supervision and with the participation of the Company's management, the Company's principal executive officer and principal financial officer have concluded that the Company's disclosure controls and procedures as defined in Rules 13a-15(e) and 15d-15(e) under the Exchange Act were effective as of June 26, 2021 to provide reasonable assurance that information required to be disclosed by the Company in reports that it files or submits under the Exchange Act is (i) recorded, processed, summarized and reported within the time periods specified in the SEC rules and forms and (ii) accumulated and communicated to the Company's management, including its principal executive officer and principal financial officer, as appropriate to allow timely decisions regarding required disclosure.

Changes in Internal Control over Financial Reporting

There were no changes in the Company's internal control over financial reporting during the third quarter of 2021, which were identified in connection with management's evaluation required by paragraph (d) of Rules 13a-15 and 15d-15 under the Exchange Act, that have materially affected, or are reasonably likely to materially affect, the Company's internal control over financial reporting.

PART II — OTHER INFORMATION

Item 1. Legal Proceedings

The Company is subject to legal proceedings and claims that have not been fully resolved and that have arisen in the ordinary course of business. The Company's material legal proceedings are described in Part I, Item 1 of this Form 10-Q in the Notes to Condensed Consolidated Financial Statements in Note 10, "Commitments and Contingencies" under the heading "Contingencies."

The outcome of litigation is inherently uncertain. If one or more legal matters were resolved against the Company in a reporting period for amounts above management's expectations, the Company's financial condition and operating results for that reporting period could be materially adversely affected. The Company settled certain matters during the third quarter of 2021 that did not individually or in the aggregate have a material impact on the Company's financial condition or operating results.

Item 1A. Risk Factors

The business, financial condition and operating results of the Company can be affected by a number of factors, whether currently known or unknown, including but not limited to those described in Part I, Item 1A of the 2020 Form 10-K under the heading "Risk Factors," any one or more of which could, directly or indirectly, cause the Company's actual financial condition and operating results to vary materially from past, or from anticipated future, financial condition and operating results. Any of these factors, in whole or in part, could materially and adversely affect the Company's business, financial condition, operating results and stock price. There have been no material changes to the Company's risk factors since the 2020 Form 10-K.

Item 2. Unregistered Sales of Equity Securities and Use of Proceeds

Purchases of Equity Securities by the Issuer and Affiliated Purchasers

Share repurchase activity during the three months ended June 26, 2021 was as follows (in millions, except number of shares, which are reflected in thousands, and per share amounts):

Periods	Total Number of Shares Purchased	Average Price Paid Per Share	Total Number of Shares Purchased as Part of Publicly Announced Plans or Programs	Approximate Dollar Value of Shares That May Yet Be Purchased Under the Plans or Programs [1]
March 28, 2021 to May 1, 2021:				
Open market and privately negotiated purchases	57,020	$ 129.97	57,020	
May 2, 2021 to May 29, 2021:				
May 2021 ASR	31,521	[2] [2]	31,521	[2]
Open market and privately negotiated purchases	49,924	$ 126.97	49,924	
May 30, 2021 to June 26, 2021:				
Open market and privately negotiated purchases	29,258	$ 128.17	29,258	
Total	167,723			$ 80,852

(1) As of June 26, 2021, the Company was authorized to purchase up to $315 billion of the Company's common stock under the Program, announced on April 28, 2021, of which $234.1 billion had been utilized. The remaining $80.9 billion in the table represents the amount available to repurchase shares under the Program as of June 26, 2021. The Program does not obligate the Company to acquire any specific number of shares. Under the Program, shares may be repurchased in privately negotiated and/or open market transactions, including under plans complying with Rule 10b5-1 under the Exchange Act.

(2) In May 2021, the Company entered into a new ASR. Under the terms of the agreement, a financial institution committed to deliver shares of the Company's stock during the purchase period in exchange for an up-front payment of $5.0 billion. The total number of shares ultimately delivered under the ASR, and therefore the average repurchase price paid per share, is determined based on the volume-weighted average price of the Company's common stock during the ASR's purchase period, which will end in or before August 2021.

Item 3. Defaults Upon Senior Securities

None.

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Item 4. Mine Safety Disclosures

Not applicable.

Item 5. Other Information

Disclosure Pursuant to Section 13(r) of the Exchange Act

Under Section 13(r) of the Exchange Act, the Company is required to disclose in its periodic reports if it or any of its affiliates knowingly conducted a transaction or dealing with entities or individuals designated pursuant to certain Executive Orders.

On March 2, 2021, the U.S. Secretary of State designated the Russian Federal Security Service (the "FSB") as a blocked party under Executive Order 13382. On the same day, the U.S. Department of the Treasury's Office of Foreign Assets Control updated General License No. 1B to authorize transactions and activities with the FSB that are necessary and ordinarily incident to requesting, receiving, utilizing, paying for, or dealing in certain licenses, permits, certifications or notifications issued or registered by the FSB for the importation, distribution or use of certain information technology products in the Russian Federation.

In the three-month period ended June 26, 2021, the Company filed legally required administrative notifications with the FSB in connection with the importation of the Company's products into the Russian Federation, as permitted by General License No. 1B. The Company did not make any payments, nor did it receive gross revenues or net profits, in connection with such engagement. The Company may in the future engage with the FSB for activities necessary to conduct business in the Russian Federation, in accordance with applicable U.S. laws and regulations.

Item 6. Exhibits

		Incorporated by Reference		
Exhibit	**Description**	**Form**	**Exhibit**	**Filing Date/ Period End Date**
	Rule 13a-14(a) / 15d-14(a) Certification of Chief Executive Officer.			
	Rule 13a-14(a) / 15d-14(a) Certification of Chief Financial Officer.			
	Section 1350 Certifications of Chief Executive Officer and Chief Financial Officer.			
	Inline XBRL Document Set for the condensed consolidated financial statements and accompanying notes in Part I, Item 1, "Financial Statements" of this Quarterly Report on Form 10-Q.			
	Inline XBRL for the cover page of this Quarterly Report on Form 10-Q, included in the Exhibit 101 Inline XBRL Document Set.			

* Filed herewith.

** Furnished herewith.

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SIGNATURE

Pursuant to the requirements of the Securities Exchange Act of 1934, the Registrant has duly caused this report to be signed on its behalf by the undersigned thereunto duly authorized.

July 27, 2021

Apple Inc.

By: /s/ Luca Maestri
Luca Maestri
Senior Vice President,
Chief Financial Officer

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Exhibit 31.1

CERTIFICATION

I, Timothy D. Cook, certify that:

1. I have reviewed this quarterly report on Form 10-Q of Apple Inc.;

2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;

3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the Registrant as of, and for, the periods presented in this report;

4. The Registrant's other certifying officer(s) and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the Registrant and have:

    (a) Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the Registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;

    (b) Designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;

    (c) Evaluated the effectiveness of the Registrant's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and

    (d) Disclosed in this report any change in the Registrant's internal control over financial reporting that occurred during the Registrant's most recent fiscal quarter (the Registrant's fourth fiscal quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, the Registrant's internal control over financial reporting; and

5. The Registrant's other certifying officer(s) and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the Registrant's auditors and the audit committee of the Registrant's board of directors (or persons performing the equivalent functions):

    (a) All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the Registrant's ability to record, process, summarize and report financial information; and

    (b) Any fraud, whether or not material, that involves management or other employees who have a significant role in the Registrant's internal control over financial reporting.

Date: July 27, 2021

By: /s/ Timothy D. Cook
Timothy D. Cook
Chief Executive Officer

COEX-
8.36

Exhibit 31.2

CERTIFICATION

I, Luca Maestri, certify that:

1. I have reviewed this quarterly report on Form 10-Q of Apple Inc.;

2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;

3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the Registrant as of, and for, the periods presented in this report;

4. The Registrant's other certifying officer(s) and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the Registrant and have:

    (a) Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the Registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;

    (b) Designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;

    (c) Evaluated the effectiveness of the Registrant's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and

    (d) Disclosed in this report any change in the Registrant's internal control over financial reporting that occurred during the Registrant's most recent fiscal quarter (the Registrant's fourth fiscal quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, the Registrant's internal control over financial reporting; and

5. The Registrant's other certifying officer(s) and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the Registrant's auditors and the audit committee of the Registrant's board of directors (or persons performing the equivalent functions):

    (a) All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the Registrant's ability to record, process, summarize and report financial information; and

    (b) Any fraud, whether or not material, that involves management or other employees who have a significant role in the Registrant's internal control over financial reporting.

Date: July 27, 2021

By: /s/ Luca Maestri

Luca Maestri
Senior Vice President,
Chief Financial Officer

COEX-
8.36

Exhibit 32.1

CERTIFICATIONS OF CHIEF EXECUTIVE OFFICER AND CHIEF FINANCIAL OFFICER
PURSUANT TO
18 U.S.C. SECTION 1350,
AS ADOPTED PURSUANT TO
SECTION 906 OF THE SARBANES-OXLEY ACT OF 2002

I, Timothy D. Cook, certify, as of the date hereof, pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002, that the Quarterly Report of Apple Inc. on Form 10-Q for the period ended June 26, 2021 fully complies with the requirements of Section 13(a) or 15(d) of the Securities Exchange Act of 1934 and that information contained in such Form 10-Q fairly presents in all material respects the financial condition and results of operations of Apple Inc. at the dates and for the periods indicated.

Date: July 27, 2021

By: /s/ Timothy D. Cook
Timothy D. Cook
Chief Executive Officer

I, Luca Maestri, certify, as of the date hereof, pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002, that the Quarterly Report of Apple Inc. on Form 10-Q for the period ended June 26, 2021 fully complies with the requirements of Section 13(a) or 15(d) of the Securities Exchange Act of 1934 and that information contained in such Form 10-Q fairly presents in all material respects the financial condition and results of operations of Apple Inc. at the dates and for the periods indicated.

Date: July 27, 2021

By: /s/ Luca Maestri
Luca Maestri
Senior Vice President,
Chief Financial Officer

A signed original of this written statement required by Section 906 has been provided to Apple Inc. and will be retained by Apple Inc. and furnished to the Securities and Exchange Commission or its staff upon request.

COEX-8.37

COEX-
8.37

UNITED STATES
SECURITIES AND EXCHANGE COMMISSION
Washington, D.C. 20549

FORM 10-K

(Mark One)

☒ **ANNUAL REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934**

For the fiscal year ended December 31, 2020

OR

☐ **TRANSITION REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934**

For the transition period from _____ to _____.

Commission file number: **001-37580**

Alphabet Inc.

(Exact name of registrant as specified in its charter)

Delaware	**61-1767919**
(State or other jurisdiction of incorporation or organization)	(I.R.S. Employer Identification No.)

1600 Amphitheatre Parkway
Mountain View, CA 94043
(Address of principal executive offices, including zip code)
(650) 253-0000
(Registrant's telephone number, including area code)

Securities registered pursuant to Section 12(b) of the Act:

Title of each class	Trading Symbol(s)	Name of each exchange on which registered
Class A Common Stock, $0.001 par value	**GOOGL**	**Nasdaq Stock Market LLC (Nasdaq Global Select Market)**
Class C Capital Stock, $0.001 par value	**GOOG**	**Nasdaq Stock Market LLC (Nasdaq Global Select Market)**

Securities registered pursuant to Section 12(g) of the Act:

Title of each class

None

Indicate by check mark if the registrant is a well-known seasoned issuer, as defined in Rule 405 of the Securities Act. Yes ☒ No ☐

Indicate by check mark if the registrant is not required to file reports pursuant to Section 13 or Section 15(d) of the Act. Yes ☐ No ☒

Indicate by check mark whether the registrant (1) has filed all reports required to be filed by Section 13 or 15(d) of the Securities Exchange Act of 1934 during the preceding 12 months (or for such shorter period that the registrant was required to file such reports), and (2) has been subject to such filing requirements for the past 90 days. Yes ☒ No ☐

Indicate by check mark whether the registrant has submitted electronically every Interactive Data File required to be submitted pursuant to Rule 405 of Regulation S-T (§232.405 of this chapter) during the preceding 12 months (or for such shorter period that the registrant was required to submit such files). Yes ☒ No ☐

Indicate by check mark whether the registrant is a large accelerated filer, an accelerated filer, a non-accelerated filer, a smaller reporting company, or an emerging growth company. See the definitions of “large accelerated filer,” “accelerated filer,” “smaller reporting company,” and "emerging growth company" in Rule 12b-2 of the Exchange Act.

Large accelerated filer	☒	Accelerated filer	☐
Non-accelerated filer	☐	Smaller reporting company	☐
Emerging growth company	☐		

If an emerging growth company, indicate by check mark if the registrant has elected not to use the extended transition period for complying with any new or revised financial accounting standards provided pursuant to Section 13(a) of the Exchange Act. ☐

Indicate by check mark whether the registrant has filed a report on and attestation to its management's assessment of the effectiveness of its internal control over financial reporting under Section 404(b) of the Sarbanes-Oxley Act (15 U.S.C.7262(b)) by the registered public accounting firm that prepared or issued its audit report. ☒

Indicate by check mark whether the registrant is a shell company (as defined in Rule 12b-2 of the Exchange Act). Yes ☐ No ☒

As of June 30, 2020, the aggregate market value of shares held by non-affiliates of the registrant (based upon the closing sale prices of such shares on the Nasdaq Global Select Market on June 30, 2020) was approximately $849.7 billion. For purposes of calculating the aggregate market value of shares held by non-affiliates, we have assumed that all outstanding shares are held by non-affiliates, except for shares held by each of our executive officers, directors and 5% or greater stockholders. In the case of 5% or greater stockholders, we have not deemed such stockholders to be affiliates unless there are facts and circumstances which would indicate that such stockholders exercise any control over our company, or unless they hold 10% or more of our outstanding common stock. These assumptions should not be deemed to constitute an admission that all executive officers, directors and 5% or greater stockholders are, in fact, affiliates of our company, or that there are not other persons who may be deemed to be affiliates of our company. Further information concerning shareholdings of our officers, directors and principal stockholders is included or incorporated by reference in Part III, Item 12 of this Annual Report on Form 10-K.

As of January 26, 2021, there were 300,737,081 shares of the registrant’s Class A common stock outstanding, 45,843,112 shares of the registrant’s Class B common stock outstanding, and 327,556,472 shares of the registrant’s Class C capital stock outstanding.

DOCUMENTS INCORPORATED BY REFERENCE

Portions of the registrant’s Proxy Statement for the 2021 Annual Meeting of Stockholders are incorporated herein by reference in Part III of this Annual Report on Form 10-K to the extent stated herein. Such proxy statement will be filed with the Securities and Exchange Commission within 120 days of the registrant’s fiscal year ended December 31, 2020.

Alphabet Inc.
Form 10-K
For the Fiscal Year Ended December 31, 2020

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NOTE ABOUT FORWARD-LOOKING STATEMENTS

This Annual Report on Form 10-K contains forward-looking statements within the meaning of the Private Securities Litigation Reform Act of 1995. These statements include, among other things, statements regarding:

- the ongoing effect of the novel coronavirus pandemic ("COVID-19"), including its macroeconomic effects on our business, operations, and financial results; and the effect of governmental lockdowns, restrictions and new regulations on our operations and processes;
- the growth of our business and revenues and our expectations about the factors that influence our success and trends in our business, including the size and timing of the expected return on our continuing investments in our Google Cloud segment;
- the potential for declines in our revenue growth rate and operating margin;
- our expectation that the shift from an offline to online world will continue to benefit our business;
- our expectation that the portion of our revenues that we derive from non-advertising revenues will continue to increase and may affect our margins;
- our expectation that our traffic acquisition costs ("TAC") and the associated TAC rate will fluctuate, which could affect our overall margins;
- our expectation that our monetization trends will fluctuate, which could affect our revenues and margins;
- fluctuations in our revenue growth, as well as the change in paid clicks and cost-per-click and the change in impressions and cost-per-impression, and various factors contributing to such fluctuations;
- our expectation that we will continue to periodically review, refine, and update our methodologies for monitoring, gathering, and counting the number of paid clicks and impressions;
- our expectation that our results will be affected by our performance in international markets as users in developing economies increasingly come online;
- our expectation that our foreign exchange risk management program will not fully offset our net exposure to fluctuations in foreign currency exchange rates;
- the expected variability of gains and losses related to hedging activities under our foreign exchange risk management program;
- the amount and timing of revenue recognition from customer contracts with commitments for performance obligations, including our estimate of the remaining amount of commitments and when we expect to recognize revenue;
- fluctuations in our capital expenditures;
- our plans to continue to invest in new businesses, products, services and technologies, systems, land and buildings for data centers and offices, and infrastructure, as well as to continue to invest in acquisitions;
- our pace of hiring and our plans to provide competitive compensation programs;
- our expectation that our cost of revenues, research and development ("R&D") expenses, sales and marketing expenses, and general and administrative expenses may increase in amount and/or may increase as a percentage of revenues and may be affected by a number of factors;
- estimates of our future compensation expenses;
- our expectation that our other income (expense), net ("OI&E"), will fluctuate in the future, as it is largely driven by market dynamics;
- fluctuations in our effective tax rate;
- seasonal fluctuations in internet usage and advertiser expenditures, underlying business trends such as traditional retail seasonality (including developments and volatility arising from COVID-19), which are likely to cause fluctuations in our quarterly results;
- the sufficiency of our sources of funding;
- our potential exposure in connection with new and pending investigations, proceedings, and other contingencies;

- the sufficiency and timing of our proposed remedies in response to decisions from the European Commission ("EC") and other regulators and governmental entities;
- our expectations regarding the timing, design and implementation of our new global enterprise resource planning ("ERP") system;
- the expected timing and amount of Alphabet Inc.'s share repurchases;
- our long-term sustainability and diversity goals;
- our expectation that the estimated useful life of servers and certain network equipment will have a favorable effect on our 2021 operating results;

as well as other statements regarding our future operations, financial condition and prospects, and business strategies. Forward-looking statements may appear throughout this report and other documents we file with the Securities and Exchange Commission ("SEC"), including without limitation, the following sections: Item 1 "Business," Item 1A "Risk Factors," and Item 7 "Management's Discussion and Analysis of Financial Condition and Results of Operations." Forward-looking statements generally can be identified by words such as "anticipates," "believes," "estimates," "expects," "intends," "plans," "predicts," "projects," "will be," "will continue," "may," "could," "will likely result," and similar expressions. These forward-looking statements are based on current expectations and assumptions that are subject to risks and uncertainties, which could cause our actual results to differ materially from those reflected in the forward-looking statements. Factors that could cause or contribute to such differences include, but are not limited to, those discussed in this Annual Report on Form 10-K, and in particular, the risks discussed in Item 1A, "Risk Factors" of this report and those discussed in other documents we file with the SEC. We undertake no obligation to revise or publicly release the results of any revision to these forward-looking statements, except as required by law. Given these risks and uncertainties, readers are cautioned not to place undue reliance on such forward-looking statements.

As used herein, "Alphabet," "the company," "we," "us," "our," and similar terms include Alphabet Inc. and its subsidiaries, unless the context indicates otherwise.

"Alphabet," "Google," and other trademarks of ours appearing in this report are our property. This report contains additional trade names and trademarks of other companies. We do not intend our use or display of other companies' trade names or trademarks to imply an endorsement or sponsorship of us by such companies, or any relationship with any of these companies.

PART I

ITEM 1. BUSINESS

Overview

As our founders Larry and Sergey wrote in the original founders' letter, "Google is not a conventional company. We do not intend to become one." That unconventional spirit has been a driving force throughout our history, inspiring us to tackle big problems, and invest in moonshots like artificial intelligence ("AI") research and quantum computing. We continue this work under the leadership of Sundar Pichai, who has served as CEO of Google since 2015 and as CEO of Alphabet since 2019.

Alphabet is a collection of businesses — the largest of which is Google — which we report as two segments: Google Services and Google Cloud. We report all non-Google businesses collectively as Other Bets. Our Other Bets include earlier stage technologies that are further afield from our core Google business. We take a long term view and manage the portfolio of Other Bets with the discipline and rigor needed to deliver long-term returns. Our Alphabet structure is about helping each of our businesses prosper through strong leaders and independence.

Access and technology for everyone

The Internet is one of the world's most powerful equalizers, capable of propelling new ideas and people forward. Our mission to organize the world's information and make it universally accessible and useful is as relevant today as it was when we were founded in 1998. Since then, we've evolved from a company that helps people find answers to a company that helps you get things done. We're focused on building an even more helpful Google for everyone, and we aspire to give everyone the tools they need to increase their knowledge, health, happiness and success.

Across Alphabet, we're focused on continually innovating in areas where technology can have an impact on people's lives. Every year, there are trillions of searches on Google, and we continue to invest deeply in AI and other technologies to ensure the most helpful Search experience possible. People come to YouTube for entertainment, information and opportunities to learn something new. And Google Assistant offers the best way to get things done seamlessly across different devices, providing intelligent help throughout your day, no matter where you are.

Since the pandemic began, our teams have built new features to help users go about their daily lives, and to support businesses working to serve their customers during an uncertain time. In conjunction with Apple, we launched Exposure Notification apps that are being used by local governments globally. Our COVID-19 Community Mobility Reports are used by public health agencies and researchers around the globe, and we've committed hundreds of millions of dollars to help small businesses through a combination of small business loans, grants and ad credits. Importantly, we've made authoritative content a key focus area across both Google Search and YouTube to help users search for trusted public health information.

Our Other Bets are also pursuing initiatives with similar goals. For instance, as a part of our efforts in the Metro Phoenix area, Waymo is working toward our goal of making transportation safer and easier for everyone while Verily is developing tools and platforms to improve health outcomes.

Moonshots

Many companies get comfortable doing what they have always done, making only incremental changes. This incrementalism leads to irrelevance over time, especially in technology, where change tends to be revolutionary, not evolutionary. People thought we were crazy when we acquired YouTube and Android and when we launched Chrome, but those efforts have matured into major platforms for digital video and mobile devices and a safer, popular browser. We continue to look toward the future and continue to invest for the long-term. As we said in the original founders' letter, we will not shy away from high-risk, high-reward projects that we believe in because they are the key to our long-term success.

The power of machine learning

Across the company, machine learning and AI are increasingly driving many of our latest innovations. Our investments in machine learning over the past decade have enabled us to build products that are smarter and more helpful. For example, a huge breakthrough in natural language understanding, called BERT, now improves results for almost every English language search query.

DeepMind made a significant AI-powered breakthrough, solving a 50-year-old protein folding challenge, which will help us better understand one of life's fundamental building blocks, and will enable researchers to tackle new and difficult problems, from fighting diseases to environmental sustainability.

Google

For reporting purposes, Google comprises two segments: Google Services and Google Cloud.

Google Services

Serving our users

We have always been a company committed to building helpful products that can improve the lives of millions of people. Our product innovations have made our services widely used, and our brand one of the most recognized in the world. Google Services' core products and platforms include Android, Chrome, Gmail, Google Drive, Google Maps, Google Photos, Google Play, Search, and YouTube, each with broad and growing adoption by users around the world.

Our products and services have come a long way since the company was founded more than two decades ago. Rather than the ten blue links in our early search results, users can now get direct answers to their questions using their computer, mobile device, or their own voice, making it quicker, easier and more natural to find what you're looking for.

This drive to make information more accessible and helpful has led us over the years to improve the discovery and creation of digital content, on the web and through platforms like Google Play and YouTube. With the migration to mobile, people are consuming more digital content by watching more videos, playing more games, listening to more music, reading more books, and using more apps than ever before. Working with content creators and partners, we continue to build new ways for people around the world to find great digital content.

Fueling all of these great digital experiences are powerful platforms and hardware. That’s why we continue to invest in platforms like our Android mobile operating system, Chrome browser, Chrome operating system, as well as growing our family of great hardware devices. We see tremendous potential for devices to be helpful, make your life easier, and get better over time, by combining the best of our AI, software, and hardware. This is reflected in our latest generation of hardware products like Pixel 4a, Pixel 4a 5G and Pixel 5 phones, Chromecast with Google TV and the Google Nest Hub smart display. Creating beautiful products that people rely on every day is a journey that we are investing in for the long run.

Key to building helpful products for users is our commitment to privacy, security and user choice. As the Internet evolves, we continue to invest in keeping data safe, including enhanced malware features in Chrome and improvements to auto-delete controls that will automatically delete web and app searches after 18 months.

How we make money

Our advertising products deliver relevant ads at just the right time, to give people useful commercial information, regardless of the device they’re using. We also provide advertisers with tools that help them better attribute and measure their advertising campaigns. Our advertising solutions help millions of companies grow their businesses, and we offer a wide range of products across devices and formats. Google Services generates revenues primarily by delivering both performance advertising and brand advertising.

- **Performance advertising** creates and delivers relevant ads that users will click on, leading to direct engagement with advertisers. Most of our performance advertisers pay us when a user engages in their ads. Performance advertising lets our advertisers connect with users while driving measurable results. Our ads tools allow performance advertisers to create simple text-based ads that appear on Google Search & other properties, YouTube and the properties of Google Network Members. In addition, Google Network Members use our platforms to display relevant ads on their properties, generating revenues when site visitors view or click on the ads. We continue to invest in our advertising programs and make significant upgrades.
- **Brand advertising** helps enhance users' awareness of and affinity with advertisers' products and services, through videos, text, images, and other interactive ads that run across various devices. We help brand advertisers deliver digital videos and other types of ads to specific audiences for their brand-building marketing campaigns.

We have built a world-class ad technology platform for advertisers, agencies, and publishers to power their digital marketing businesses. We aim to ensure great user experiences by serving the right ads at the right time and by building deep partnerships with brands and agencies. We also seek to improve the measurability of advertising so advertisers know when their campaigns are effective.

We have allocated substantial resources to stopping bad advertising practices and protecting users on the web. We focus on creating the best advertising experiences for our users and advertisers in many ways, ranging

from filtering out invalid traffic, removing billions of bad ads from our systems every year to closely monitoring the sites, apps, and videos where ads appear and blocklisting them when necessary to ensure that ads do not fund bad content.

We continue to look to the future and are making long-term investments that will grow revenues beyond advertising, including Google Play, hardware, and YouTube. We are also investing in research efforts in AI and quantum computing to foster innovation across our businesses and create new opportunities.

Google Cloud

Google was a company built in the cloud. We continue to invest in infrastructure, security, data management, analytics and AI. We see significant opportunity in helping businesses utilize these strengths with features like data migration, modern development environments and machine learning tools to provide enterprise-ready cloud services, including Google Cloud Platform and Google Workspace (formerly known as G Suite). Google Cloud Platform enables developers to build, test, and deploy applications on its highly scalable and reliable infrastructure. Our Google Workspace collaboration tools — which include apps like Gmail, Docs, Drive, Calendar, Meet and more — are designed with real-time collaboration and machine intelligence to help people work smarter. Because more and more of today's great digital experiences are being built in the cloud, our Google Cloud products help businesses of all sizes take advantage of the latest technology advances to operate more efficiently.

Google Cloud generates revenues primarily from fees received for Google Cloud Platform services and Google Workspace collaboration tools.

Other Bets

Throughout Alphabet, we are also using technology to try and solve big problems across many industries. Alphabet's investment in our portfolio of Other Bets include emerging businesses at various stages of development, ranging from those in the research and development phase to those that are in the beginning stages of commercialization, and our goal is for them to become thriving, successful businesses in the medium to long term. While these early-stage businesses naturally come with considerable uncertainty, some of them are already generating revenue and making important strides in their industries. Revenues are primarily generated from internet and TV services, as well as licensing and R&D services.

Other Bets operate as independent companies and some of them have their own boards with independent members and outside investors. We are investing in our portfolio of Other Bets and being very deliberate about the focus, scale, and pace of investments.

Competition

Our business is characterized by rapid change as well as new and disruptive technologies. We face formidable competition in every aspect of our business, particularly from companies that seek to connect people with online information and provide them with relevant advertising. We face competition from:

- General purpose search engines and information services, such as Baidu, Microsoft's Bing, Naver, Seznam, Verizon's Yahoo, and Yandex.
- Vertical search engines and e-commerce websites, such as Amazon and eBay (e-commerce), Booking's Kayak (travel queries), Microsoft's LinkedIn (job queries), and WebMD (health queries). Some users will navigate directly to such content, websites, and apps rather than go through Google.
- Social networks, such as Facebook, Snapchat, and Twitter. Some users increasingly rely on social networks for product or service referrals, rather than seeking information through traditional search engines.
- Other forms of advertising, such as billboards, magazines, newspapers, radio, and television. Our advertisers typically advertise in multiple media, both online and offline.
- Other online advertising platforms and networks, including Amazon, AppNexus, Criteo, and Facebook, that compete for advertisers that use Google Ads, our primary auction-based advertising platform.
- Providers of digital video services, such as Amazon, Apple, AT&T, Disney, Facebook, Hulu, Netflix and TikTok.

In businesses that are further afield from our advertising business, we compete with companies that have longer operating histories and more established relationships with customers and users. We face competition from:

- Other digital content and application platform providers, such as Amazon and Apple.

- Companies that design, manufacture, and market consumer hardware products, including businesses that have developed proprietary platforms.
- Providers of enterprise cloud services, including Alibaba, Amazon, and Microsoft.
- Digital assistant providers, such as Amazon and Apple.

Competing successfully depends heavily on our ability to deliver and distribute innovative products and technologies to the marketplace across our businesses. Specifically, for advertising, competing successfully depends on attracting and retaining:

- Users, for whom other products and services are literally one click away, largely on the basis of the relevance of our advertising, as well as the general usefulness, security and availability of our products and services.
- Advertisers, primarily based on our ability to generate sales leads, and ultimately customers, and to deliver their advertisements in an efficient and effective manner across a variety of distribution channels.
- Content providers, primarily based on the quality of our advertiser base, our ability to help these partners generate revenues from advertising, and the terms of our agreements with them.

Ongoing Commitment to Sustainability

At Google, we build technology that helps people do more for the planet. We strive to build sustainability into everything we do, including designing and operating efficient data centers, advancing carbon-free energy, creating sustainable workplaces, building better devices and services, empowering users with technology, and enabling a responsible supply chain.

Google has been carbon neutral since 2007, and in 2019, for the third consecutive year, we matched 100% of our electricity consumption with renewable energy purchases. We are the largest annual corporate purchaser of renewable energy in the world, based on renewable electricity purchased in megawatt-hour (MWh). In 2020, we neutralized our entire legacy carbon footprint since our founding (covering all our operational emissions before we became carbon neutral in 2007), making Google the first major company to achieve carbon neutrality for its entire operating history. In our third decade of climate action, we've set our most ambitious goal yet: to run our business on carbon-free energy everywhere, at all times, by 2030.

We're also investing in technologies to help our partners and people all over the world make sustainable choices. For example, we intend to enable 5 GW of new carbon-free energy across our key manufacturing regions by 2030 through investment. We anticipate this will spur more than $5 billion in clean energy investments, avoid the amount of emissions equal to taking more than 1 million cars off the road each year, and create more than 8,000 clean energy jobs. With the Environmental Insights Explorer, we're also working to help more than 500 cities and local governments globally reduce a total of 1 gigaton of carbon emissions annually by 2030 — that's the equivalent of the annual carbon emissions of a country the size of Japan.

Google's products are already helping people make more sustainable choices in their daily lives, whether it's using Google Maps to find bike-shares and electric vehicle charging stations, or in many European countries, using Google Flights to sort the least carbon-intensive option flights. There are more tools and information we can provide, and our goal is to find new ways that our products can help 1 billion people make more sustainable choices by 2022.

Climate change is one of the most significant global challenges of our time. In 2017, we developed a climate resilience strategy, which included conducting a climate scenario analysis. We've earned a spot on the CDP (formerly the Carbon Disclosure Project) Climate Change A List for seven consecutive years. We believe our CDP climate change response reflects the recommendations of the Task Force on Climate-related Financial Disclosures (TCFD).

In 2020, we issued $5.75 billion in sustainability bonds, the largest sustainability or green bond issuance by any company in history. The net proceeds from the issuance are used to fund environmentally and socially responsible projects in the following eight areas: energy efficiency, clean energy, green buildings, clean transportation, circular economy and design, affordable housing, commitment to racial equity, and support for small businesses and COVID-19 crisis response.

More information on our approach to sustainability can be found in our annual sustainability reports, including Google's environmental report. The content of our sustainability reports are not incorporated by reference into this Annual Report on Form 10-K or in any other report or document we file with the SEC.

Culture and Workforce

We're a company of curious, talented and passionate people. We embrace collaboration and creativity, and encourage the iteration of ideas to address complex challenges in technology and society.

Our people are critical for our continued success. We work hard to provide an environment where Googlers can have fulfilling careers, and be happy, healthy and productive. We offer industry-leading benefits and programs to take care of the diverse needs of our employees and their families, including access to excellent healthcare choices, opportunities for career growth and development, and resources to support their financial health. Our competitive compensation programs help us to attract and retain top candidates, and we will continue to invest in recruiting talented people to technical and non-technical roles and rewarding them well.

Alphabet is committed to making diversity, equity, and inclusion part of everything we do and we're committed to growing a workforce that's representative of the users we serve. More information on Google's approach to diversity can be found in our annual diversity reports, available publicly at diversity.google. The content of our diversity reports is not incorporated by reference into this Annual Report on Form 10-K or in any other report or document we file with the SEC.

We have work councils and statutory employee representation obligations in certain countries and we are committed to supporting protected labor rights, maintaining an open culture and listening to all Googlers. Supporting healthy and open dialogue is central to how we work, and we communicate information about the company through multiple internal channels to our employees. As of December 31, 2020, Alphabet had 135,301 employees.

When necessary, we contract with businesses around the world to provide specialized services where we don't have appropriate in-house expertise or resources, often in fields that require specialized training like cafe operations, customer support, content moderation and physical security. We also contract with temporary staffing agencies when we need to cover short-term leaves, when we have spikes in business needs, or when we need to quickly incubate special projects. We choose our partners and staffing agencies carefully, and review their compliance with Google's Supplier Code of Conduct. We continually make improvements to promote a respectful and positive working environment for everyone — employees, vendors and temporary staff alike.

Government Regulation

We are subject to numerous U.S. federal, state, and foreign laws and regulations covering a wide variety of subject matters. Like other companies in the technology industry, we face heightened scrutiny from both U.S. and foreign governments with respect to our compliance with laws and regulations. Our compliance with these laws and regulations may be onerous and could, individually or in the aggregate, increase our cost of doing business, impact our competitive position relative to our peers, and/or otherwise have an adverse impact on our business, reputation, financial condition, and operating results. For additional information about government regulation applicable to our business, see Risk Factors in Part I, Item 1A, Trends in Our Business in Part II, Item 7, and Legal Matters in Note 10 of the Notes to Consolidated Financial Statements included in Part II, Item 8 in this Annual Report on Form 10-K.

Intellectual Property

We rely on various intellectual property laws, confidentiality procedures and contractual provisions to protect our proprietary technology and our brand. We have registered, and applied for the registration of, U.S. and international trademarks, service marks, domain names and copyrights. We have also filed patent applications in the U.S. and foreign countries covering certain of our technology, and acquired patent assets to supplement our portfolio. We have licensed in the past, and expect that we may license in the future, certain of our rights to other parties.

Seasonality

Our business is affected by seasonal fluctuations in internet usage, advertising expenditures, and underlying business trends such as traditional retail seasonality (including developments and volatility arising from COVID-19).

Available Information

Our website is located at www.abc.xyz, and our investor relations website is located at www.abc.xyz/investor. Our Annual Reports on Form 10-K, Quarterly Reports on Form 10-Q, Current Reports on Form 8-K, and our Proxy Statements, and any amendments to these reports, are available through our investor relations website, free of charge, after we file them with the SEC. We also provide a link to the section of the SEC's website at www.sec.gov that has all of the reports that we file or furnish with the SEC.

We webcast via our investor relations website our earnings calls and certain events we participate in or host with members of the investment community. Our investor relations website also provides notifications of news or

announcements regarding our financial performance and other items that may be material or of interest to our investors, including SEC filings, investor events, press and earnings releases, and blogs. We also share Google news and product updates on Google's Keyword blog at https://www.blog.google/, that may be material or of interest to our investors. Further, corporate governance information, including our certificate of incorporation, bylaws, governance guidelines, board committee charters, and code of conduct, is also available on our investor relations website under the heading "Other." The content of our websites are not incorporated by reference into this Annual Report on Form 10-K or in any other report or document we file with the SEC, and any references to our websites are intended to be inactive textual references only.

ITEM 1A. RISK FACTORS

Our operations and financial results are subject to various risks and uncertainties, including but not limited to those described below, which could harm our business, reputation, financial condition, and operating results.

Risks Specific to our Company

We generate a significant portion of our revenues from advertising, and reduced spending by advertisers, a loss of partners, or new and existing technologies that block ads online and/or affect our ability to customize ads could harm our business.

We generated over 80% of total revenues from the display of ads online in 2020. Many of our advertisers, companies that distribute our products and services, digital publishers, and content providers can terminate their contracts with us at any time. These partners may not continue to do business with us if we do not create more value (such as increased numbers of users or customers, new sales leads, increased brand awareness, or more effective monetization) than their available alternatives. Changes to our advertising policies and data privacy practices, as well as changes to other companies' advertising and/or data privacy practices may affect the advertising that we are able to provide, which could harm our business. In addition, technologies have been developed that make customized ads more difficult or that block the display of ads altogether and some providers of online services have integrated technologies that could potentially impair the availability and functionality of third-party digital advertising. Failing to provide superior value or deliver advertisements effectively and competitively could harm our reputation, financial condition, and operating results.

In addition, expenditures by advertisers tend to be cyclical, reflecting overall economic conditions and budgeting and buying patterns. Adverse macroeconomic conditions, including COVID-19 and its effects on the global economy (as discussed in greater detail in our COVID-19 risk factor under 'General Risks' below), have impacted the demand for advertising and resulted in fluctuations in the amounts our advertisers spend on advertising, and could have an adverse impact on such demand and spend, which could harm our financial condition and operating results.

We face intense competition. If we do not continue to innovate and provide products and services that are useful to users, we may not remain competitive, which could harm our business and operating results.

Our business environment is rapidly evolving and intensely competitive. Our businesses face changing technologies, shifting user needs, and frequent introductions of rival products and services. To compete successfully, we must accurately anticipate technology developments and deliver innovative, relevant and useful products, services, and technologies in a timely manner. As our businesses evolve, the competitive pressure to innovate will encompass a wider range of products and services. We must continue to invest significant resources in research and development, including through acquisitions, in order to enhance our technology and new and existing products and services.

We have many competitors in different industries. Our current and potential domestic and international competitors range from large and established companies to emerging start-ups. Some competitors have longer operating histories and well established relationships in various sectors. They can use their experience and resources in ways that could affect our competitive position, including by making acquisitions, continuing to invest heavily in research and development and in talent, aggressively initiating intellectual property claims (whether or not meritorious), and continuing to compete aggressively for users, advertisers, customers, and content providers. Further, discrepancies in enforcement of existing laws may enable our lesser known competitors to aggressively interpret those laws without commensurate scrutiny, thereby affording them competitive advantages. Our competitors may also be able to innovate and provide products and services faster than we can or may foresee the need for products and services before us.

Our operating results may also suffer if our products and services are not responsive to the needs of our users, advertisers, publishers, customers, and content providers. As technologies continue to develop, our competitors may be able to offer experiences that are, or that are seen to be, substantially similar to or better than ours. This

may force us to compete in different ways and expend significant resources in order to remain competitive. If our competitors are more successful than we are in developing compelling products or in attracting and retaining users, advertisers, publishers, customers, and content providers, our operating results could be harmed.

Our ongoing investment in new businesses, products, services, and technologies is inherently risky, and could disrupt our current operations and harm our financial condition and operating results.

We have invested and expect to continue to invest in new businesses, products, services, and technologies. The investments that we are making across Google Services, Google Cloud and Other Bets reflect our ongoing efforts to innovate and provide products and services that are useful to users, advertisers, publishers, customers, and content providers. Our investments in Google Services, Google Cloud and Other Bets span a wide range of industries beyond online advertising. Such investments ultimately may not be commercially viable or may not result in an adequate return of capital and, in pursuing new strategies, we may incur unanticipated liabilities. These endeavors may involve significant risks and uncertainties, including diversion of management resources and, with respect to Other Bets, the use of alternative investment, governance, or compensation structures that may fail to adequately align incentives across the company or otherwise accomplish their objectives.

Within Google Services, we continue to invest heavily in hardware, including our smartphones and home devices, which is a highly competitive market with frequent introduction of new products and services, rapid adoption of technological advancements by competitors, short product life cycles, evolving industry standards, continual improvement in product price and performance characteristics, and price and feature sensitivity on the part of consumers and businesses. There can be no assurance we will be able to provide hardware that competes effectively.

Within Google Cloud, we devote significant resources to develop and deploy our enterprise-ready cloud services, including Google Cloud Platform and Google Workspace. We are incurring costs to build and maintain infrastructure to support cloud computing services and hire talent, particularly to support and scale our salesforce. At the same time, our competitors are rapidly developing and deploying cloud-based services. Pricing and delivery models are competitive and evolving, and we may not attain sufficient scale and profitability to achieve our business objectives.

Within Other Bets, we are investing significantly in the areas of health, life sciences, and transportation, among others. These investment areas face intense competition from large experienced and well-funded competitors and our offerings may not be able to compete effectively or to operate at sufficient levels of profitability.

In addition, new and evolving products and services, including those that use artificial intelligence and machine learning, raise ethical, technological, legal, regulatory, and other challenges, which may negatively affect our brands and demand for our products and services. Because all of these new ventures are inherently risky, no assurance can be given that such strategies and offerings will be successful and will not harm our reputation, financial condition, and operating results.

Our revenue growth rate could decline over time, and we anticipate downward pressure on our operating margin in the future.

Our revenue growth rate could decline over time as a result of a number of factors, including increasing competition and the continued expansion of our business into a variety of new fields. Changes in device mix, geographic mix, ongoing product and policy changes, product mix, and property mix and an increasing competition for advertising may also affect our advertising revenue growth rate. We may also experience a decline in our revenue growth rate as our revenues increase to higher levels, if there is a decrease in the rate of adoption of our products, services, and technologies, or due to deceleration or decline in demand for devices used to access our services, among other factors. In addition, COVID-19 and its effects on the global economy has impacted and may continue to adversely impact our revenue growth rate (as discussed in greater detail in our COVID-19 risk factor under ‘General Risks’ below).

In addition to a decline in our revenue growth rate, we may also experience downward pressure on our operating margin resulting from a variety of factors, such as the continued expansion of our business into new fields, including products and services such as hardware, Google Cloud, and subscription products, as well as significant investments in Other Bets, all of which may have margins lower than those we generate from advertising. We may also experience downward pressure on our operating margins from increasing regulations, increasing competition and increased costs for many aspects of our business, including within advertising where changes such as device mix, property mix, and partner agreements can affect margin. The margin we earn on revenues generated from our Google Network Members could also decrease in the future if we pay a larger percentage of advertising fees to them. We may also pay increased TAC to our distribution partners as well as increased content acquisition

costs to content providers. We may also face an increase in infrastructure costs, supporting businesses such as Search, Google Cloud, and YouTube. Many of our expenses are less variable in nature and may not correlate to changes in revenues.

Due to these factors and the evolving nature of our business, our historical revenue growth rate and historical operating margin may not be indicative of our future performance.

Our intellectual property rights are valuable, and any inability to protect them could reduce the value of our products, services and brands as well as affect our ability to compete.

Our patents, trademarks, trade secrets, copyrights, and other intellectual property rights are important assets for us. Various events outside of our control pose a threat to our intellectual property rights, as well as to our products, services, and technologies. For example, effective intellectual property protection may not be available in every country in which our products and services are distributed or made available through the Internet. Also, the efforts we have taken to protect our proprietary rights may not be sufficient or effective. Although we seek to obtain patent protection for our innovations, it is possible we may not be able to protect some of these innovations. Moreover, we may not have adequate patent or copyright protection for certain innovations that later turn out to be important. Furthermore, there is always the possibility, despite our efforts, that the scope of the protection gained will be insufficient or that an issued patent may be deemed invalid or unenforceable.

We also seek to maintain certain intellectual property as trade secrets. The secrecy of such trade secrets and other sensitive information could be compromised, which could cause us to lose the competitive advantage resulting from these trade secrets. We also face risks associated with our trademarks. For example, there is a risk that the word “Google” could become so commonly used that it becomes synonymous with the word “search.” Some courts have ruled that "Google" is a protectable trademark, but it is possible that other courts, particularly those outside of the United States, may reach a different determination. If this happens, we could lose protection for this trademark, which could result in other people using the word “Google” to refer to their own products, thus diminishing our brand.

Any significant impairment of our intellectual property rights could harm our business and our ability to compete. Also, protecting our intellectual property rights is costly and time consuming. Any increase in the unauthorized use of our intellectual property could make it more expensive to do business and harm our operating results.

Our business depends on strong brands, and failing to maintain and enhance our brands would hurt our ability to expand our base of users, advertisers, customers, content providers, and other partners.

Our strong brands have significantly contributed to the success of our business. Maintaining and enhancing the brands within Google Services, Google Cloud and Other Bets increases our ability to enter new categories and launch new and innovative products that better serve the needs of our users, advertisers, customers, content providers, and other partners. Our brands may be negatively affected by a number of factors, including, among others, reputational issues, third-party content shared on our platforms, data privacy and security issues and developments, and product or technical performance failures. For example, if we fail to appropriately respond to the sharing of misinformation or objectionable content on our services and/or products or objectionable practices by advertisers, or to otherwise adequately address user concerns, our users may lose confidence in our brands.

Furthermore, failure to maintain and enhance equity in our brands may harm our business, financial condition, and operating results. Our success will depend largely on our ability to remain a technology leader and continue to provide high-quality, innovative products and services that are truly useful and play a valuable role in a range of settings.

We face a number of manufacturing and supply chain risks that, if not properly managed, could harm our financial condition, operating results, and prospects.

We face a number of risks related to manufacturing and supply chain management, which could affect our ability to supply both our products and our internet-based services.

We rely on other companies to manufacture many of our finished products, to design certain of our components and parts, and to participate in the distribution of our products and services. Our business could be negatively affected if we are not able to engage these companies with the necessary capabilities or capacity on reasonable terms, or if those we engage fail to meet their obligations (whether due to financial difficulties or other reasons), or make adverse changes in the pricing or other material terms of our arrangements with them.

We have experienced and/or may experience supply shortages and price increases driven by raw material, component or part availability, manufacturing capacity, labor shortages, industry allocations, tariffs, trade disputes

and barriers, natural disasters or pandemics (including COVID-19), the effects of climate change (such as sea level rise, drought, flooding, wildfires, and increased storm severity), and significant changes in the financial or business condition of our suppliers. We have experienced and/or may in the future, experience shortages or other supply chain disruptions that could negatively affect our operations. In addition, some of the components we use in our technical infrastructure and products are available from only one or limited sources, and we may not be able to find replacement vendors on favorable terms in the event of a supply chain disruption. In addition, a significant supply interruption could delay critical data center upgrades or expansions and delay product availability.

We may enter into long term contracts for materials and products that commit us to significant terms and conditions. We may be liable for materials and products that are not consumed due to market acceptance, technological change, obsolescences, quality, product recalls, and warranty issues. For instance, because certain of our hardware supply contracts have volume-based pricing or minimum purchase requirements, if the volume of our hardware sales decreases or does not reach projected targets, we could face increased materials and manufacturing costs or other financial liabilities that could make our products more costly per unit to manufacture and negatively affect our financial results. Furthermore, certain of our competitors may negotiate more favorable contractual terms based on volume and other commitments that may provide them with competitive advantages and may affect our supply.

Our products and services may have quality issues resulting from design, manufacturing, or operations. Sometimes, these issues may be caused by components we purchase from other manufacturers or suppliers. If the quality of our products and services does not meet expectations or our products or services are defective, it could harm our reputation, financial condition, and operating results.

We require our suppliers and business partners to comply with laws and, where applicable, our company policies, such as the Google Supplier Code of Conduct, regarding workplace and employment practices, data security, environmental compliance and intellectual property licensing, but we do not control them or their practices. Violations of law or unethical business practices could result in supply chain disruptions, canceled orders, harm to key relationships, and damage to our reputation. Their failure to procure necessary license rights to intellectual property, could affect our ability to sell our products or services and expose us to litigation or financial claims.

Interruption, interference with, or failure of our complex information technology and communications systems could hurt our ability to effectively provide our products and services, which could harm our reputation, financial condition, and operating results. In addition, complications with the design or implementation of our new global enterprise resource planning system could harm our business and operations.

The availability of our products and services and fulfillment of our customer contracts depend on the continuing operation of our information technology and communications systems. Our systems are vulnerable to damage, interference, or interruption from modifications or upgrades, terrorist attacks, natural disasters or pandemics (including COVID-19), the effects of climate change (such as sea level rise, drought, flooding, wildfires, and increased storm severity), power loss, telecommunications failures, computer viruses, ransomware attacks, computer denial of service attacks, phishing schemes, or other attempts to harm or access our systems. Some of our data centers are located in areas with a high risk of major earthquakes or other natural disasters. Our data centers are also subject to break-ins, sabotage, and intentional acts of vandalism, and, in some cases, to potential disruptions resulting from problems experienced by facility operators. Some of our systems are not fully redundant, and disaster recovery planning cannot account for all eventualities.

The occurrence of a natural disaster or pandemic (including COVID-19), closure of a facility, or other unanticipated problems at, or impacting, our data centers could result in lengthy interruptions in our service. In addition, our products and services are highly technical and complex and may contain errors or vulnerabilities, which could result in interruptions in or failure of our services or systems.

In addition, we rely extensively on information systems and technology to manage our business and summarize operating results. We are in the process of a multi-year implementation of a new ERP system, which will replace much of our existing core financial systems. The ERP system is designed to accurately maintain our financial records, enhance the flow of financial information, improve data management, and provide timely information to our management team. We may not be able to successfully implement the ERP system without experiencing delays, increased costs, and other difficulties. Failure to successfully design and implement the new ERP system as planned could harm our business, financial condition, and operating results. Additionally, if we do not effectively implement the ERP system as planned or the ERP system does not operate as intended, the effectiveness of our internal control over financial reporting could be negatively affected.

Our international operations expose us to additional risks that could harm our business, our financial condition, and operating results.

Our international operations are significant to our revenues and net income, and we plan to continue to grow internationally. International revenues accounted for approximately 53% of our consolidated revenues in 2020. In addition to risks described elsewhere in this section, our international operations expose us to other risks, including the following:

- Restrictions on foreign ownership and investments, and stringent foreign exchange controls that might prevent us from repatriating cash earned in countries outside the U.S.
- Import and export requirements, tariffs and other market access barriers that may prevent or impede us from offering products or providing services to a particular market, or that could limit our ability to source assemblies and finished products from a particular market, and may increase our operating costs.
- Longer payment cycles in some countries, increased credit risk, and higher levels of payment fraud.
- Evolving foreign events, including the effect of the United Kingdom's withdrawal from the European Union, may adversely affect our revenues and could subject us to new regulatory costs and challenges (including the transfer of personal data between the EU and the United Kingdom and new customer requirements), in addition to other adverse effects that we are unable to effectively anticipate.
- Anti-corruption laws, such as the U.S. Foreign Corrupt Practices Act, and other local laws prohibiting certain payments to government officials, violations of which could result in civil and criminal penalties.
- Uncertainty regarding liability for services and content, including uncertainty as a result of local laws and lack of legal precedent.
- Different employee/employer relationships, existence of works councils and labor unions, and other challenges caused by distance, language, and cultural differences, making it harder to do business in certain jurisdictions.

Because we conduct business in currencies other than U.S. dollars but report our financial results in U.S. dollars, we face exposure to fluctuations in foreign currency exchange rates. Although we hedge a portion of our international currency exposure, significant fluctuations in exchange rates between the U.S. dollar and foreign currencies may adversely affect our revenues and earnings, particularly in light of market volatilities due to COVID-19. Hedging programs are also inherently risky and could expose us to additional risks that could harm our financial condition and operating results.

Risks Related to our Industry

People access the Internet through a variety of platforms and devices that continue to evolve with the advancement of technology and user preferences. If manufacturers and users do not widely adopt versions of our products and services developed for these interfaces, our business could be harmed.

People access the Internet through a growing variety of devices such as desktop computers, mobile phones, smartphones, laptops and tablets, video game consoles, voice-activated speakers, wearables, automobiles, and television-streaming devices. Our products and services may be less popular on some interfaces. Each manufacturer or distributor may establish unique technical standards for its devices, and our products and services may not be available or may only be available with limited functionality for our users or our advertisers on these devices as a result. Some manufacturers may also elect not to include our products on their devices. In addition, search queries are increasingly being undertaken via voice-activated speakers, apps, social media or other platforms, which could harm our business. It is hard to predict the challenges we may encounter in adapting our products and services and developing competitive new products and services. We expect to continue to devote significant resources to creating and supporting products and services across multiple platforms and devices. Failing to attract and retain a substantial number of new device manufacturers, suppliers, distributors, developers, and users, or failing to develop products and technologies that work well on new devices and platforms, could harm our business, financial condition, and operating results and ability to capture future business opportunities.

Data privacy and security concerns relating to our technology and our practices could damage our reputation, cause us to incur significant liability, and deter current and potential users or customers from using our products and services. Software bugs or defects, security breaches, and attacks on our systems could result in the improper disclosure and use of user data and interference with our users and customers' ability to use our products and services, harming our business operations and reputation.

Concerns about our practices with regard to the collection, use, disclosure, or security of personal information or other data-privacy-related matters, even if unfounded, could harm our reputation, financial condition, and operating results. Our policies and practices may change over time as expectations regarding privacy and data change.

Our products and services involve the storage and transmission of proprietary and other sensitive information, and bugs, theft, misuse, defects, vulnerabilities in our products and services, and security breaches expose us to a risk of loss of this information, improper use and disclosure of such information, litigation, and other potential liability. Systems and control failures, security breaches, failure to comply with our privacy policies, and/or inadvertent disclosure of user data could result in government and legal exposure, seriously harm our reputation and brand and, therefore, our business, and impair our ability to attract and retain users or customers. We expect to continue to expend significant resources to maintain security protections that shield against bugs, theft, misuse, or security vulnerabilities or breaches.

We experience cyber attacks and other attempts to gain unauthorized access to our systems on a regular basis. We may experience future security issues, whether due to employee error or malfeasance or system errors or vulnerabilities in our or other parties' systems, which could result in significant legal and financial exposure. Government inquiries and enforcement actions, litigation, and adverse press coverage could harm our business. We may be unable to anticipate or detect attacks or vulnerabilities or implement adequate preventative measures. Attacks and security issues could also compromise trade secrets and other sensitive information, harming our business.

While we have dedicated significant resources to privacy and security incident response capabilities, including dedicated worldwide incident response teams, our response process, particularly during times of a natural disaster or pandemic (including COVID-19), may not be adequate, may fail to accurately assess the severity of an incident, may not respond quickly enough, or may fail to sufficiently remediate an incident. As a result, we may suffer significant legal, reputational, or financial exposure, which could harm our business, financial condition, and operating results.

Our ongoing investments in safety, security, and content review will likely continue to identify abuse of our platforms and misuse of user data.

In addition to our efforts to mitigate cyber attacks, we are making significant investments in safety, security, and content review efforts to combat misuse of our services and unauthorized access to user data by third parties, including investigations and review of platform applications that could access the information of users of our services. As a result of these efforts, we could discover incidents of unnecessary access to or misuse of user data or other undesirable activity by third parties. We may not discover all such incidents or activity, whether as a result of our data limitations, including our lack of visibility over our encrypted services, the scale of activity on our platform, or other factors, including factors outside of our control such as a natural disaster or pandemic (including COVID-19), and we may be notified of such incidents or activity via third parties. Such incidents and activities may include the use of user data or our systems in a manner inconsistent with our terms, contracts or policies, the existence of false or undesirable user accounts, election interference, improper ad purchases, activities that threaten people's safety on- or offline, or instances of spamming, scraping, or spreading disinformation. We may also be unsuccessful in our efforts to enforce our policies or otherwise remediate any such incidents. Any of the foregoing developments may negatively affect user trust and engagement, harm our reputation and brands, require us to change our business practices in a manner adverse to our business, and adversely affect our business and financial results. Any such developments may also subject us to additional litigation and regulatory inquiries, which could result in monetary penalties and damages, divert management's time and attention, and lead to enhanced regulatory oversight.

Problematic content on our platforms, including low-quality user-generated content, web spam, content farms, and other violations of our guidelines could affect the quality of our services, which could damage our reputation and deter our current and potential users from using our products and services.

We, like others in the industry, face violations of our content guidelines across our platforms, including sophisticated attempts by bad actors to manipulate our hosting and advertising systems to fraudulently generate revenues, or to otherwise generate traffic that does not represent genuine user interest or intent. While we invest significantly in efforts to promote high-quality and relevant results and to detect and prevent low-quality content and invalid traffic, we may be unable to adequately detect and prevent such abuses or promote high-quality content, particularly during times of a natural disaster or pandemic (including COVID-19).

Many websites violate or attempt to violate our guidelines, including by seeking to inappropriately rank higher in search results than our search engine's assessment of their relevance and utility would rank them. Such efforts

(known as “web spam”) may affect the quality of content on our platforms and lead them to display false, misleading or undesirable content.

Although English-language web spam in our search results has been reduced, and web spam in most other languages is limited, we expect web spammers will continue to seek inappropriate ways to improve their rankings. We continuously combat web spam in our search results, including through indexing technology that makes it harder for spam-like, less useful web content to rank highly. We also continue to invest in and deploy proprietary technology to detect and prevent web spam from abusing our platforms.

We also face other challenges from low-quality and irrelevant content websites, including content farms, which are websites that generate large quantities of low-quality content to help them improve their search rankings. We are continually launching algorithmic changes focused on detecting and preventing abuse from low-quality websites.

We also face other challenges on our platforms, including violations of our content guidelines involving incidents such as attempted election interference, activities that threaten the safety and/or well-being of our users on- or offline, and the spreading of disinformation, among other challenges.

If we fail to either detect and prevent an increase in problematic content or effectively promote high-quality content, it could hurt our reputation for delivering relevant information or reduce use of our platforms, harming our financial condition or operating results. It may also subject us to litigation and regulatory inquiries, which could result in monetary penalties and damages, divert management’s time and attention, and lead to enhanced regulatory oversight.

Our business depends on continued and unimpeded access to the Internet by us and our users. Internet access providers may be able to restrict, block, degrade, or charge for access to certain of our products and services, which could lead to additional expenses and the loss of users and advertisers.

Our products and services depend on the ability of our users to access the Internet, and certain of our products require significant bandwidth to work effectively. Currently, this access is provided by companies that have significant market power in the broadband and internet access marketplace, including incumbent telephone companies, cable companies, mobile communications companies, and government-owned service providers. Some of these providers have taken, or have stated that they may take measures that could degrade, disrupt, or increase the cost of user access to certain of our products by restricting or prohibiting the use of their infrastructure to support or facilitate our offerings, by charging increased fees to us or our users to provide our offerings, or by providing our competitors preferential access. Some jurisdictions have adopted regulations prohibiting certain forms of discrimination by internet access providers; however, substantial uncertainty exists in the United States and elsewhere regarding such protections. For example, in 2018 the United States Federal Communications Commission repealed net neutrality rules, which could permit internet access providers to restrict, block, degrade, or charge for access to certain of our products and services. In addition, in some jurisdictions, our products and services have been subject to government-initiated restrictions or blockages. COVID-19 has also resulted in quarantines, shelter in place orders, and work from home directives, all of which have increased demands for internet access and may create access challenges. These could result in a loss of existing users, customers and advertisers, goodwill, and increased costs, and could impair our ability to attract new users, customers and advertisers, thereby harming our business.

Risks Related to Laws and Regulations

We face increased regulatory scrutiny as well as changes in regulatory conditions, laws and policies governing a wide range of topics that may negatively affect our business.

We and other companies in the technology industry face increased regulatory scrutiny, enforcement action, and other proceedings. For instance, the U.S. Department of Justice, joined by a number of state Attorneys General, filed an antitrust complaint against Google on October 20, 2020, alleging that Google violated U.S. antitrust laws relating to Search and Search advertising. Separately, on December 16, 2020, a number of state Attorneys General filed an antitrust complaint against Google in the United States District Court for the Eastern District of Texas, alleging that Google violated U.S. antitrust laws as well as state deceptive trade laws relating to its advertising technology. Various other regulatory agencies in the United States and around the world, including competition enforcers, consumer protection agencies, data protection authorities, grand juries, inter-agency consultative groups, and a range of other governmental bodies have and continue to review our products and services and their compliance with laws and regulations around the world. We continue to cooperate with these investigations. Various laws, regulations, investigations, enforcement lawsuits, and regulatory actions have in the past and may in the future result in substantial fines and penalties, injunctive relief, ongoing auditing and monitoring

obligations, changes to our products and services, alterations to our business models and operations, and collateral litigation, all of which could harm our business, reputation, financial condition, and operating results.

Changes in international and local social, political, economic, tax, and regulatory conditions or in laws and policies governing a wide range of topics may increase our cost of doing business, limit our ability to pursue certain business models, offer products or services in certain jurisdictions, or cause us to change our business practices. We have in the past had to alter or withdraw certain products and services as a result of laws or regulations that made them unfeasible, and new laws or regulations, such as the News Media Bargaining Code drafted by the Australian Competition and Consumer Commission currently tabled in parliament, could result in our having to alter or withdraw products and services in the future. These additional costs of doing business, new limitations or changes to our business model or practices could harm our business, reputation, financial condition, and operating results.

A variety of new and existing laws and/or interpretations could harm our business.

We are subject to numerous U.S. and foreign laws and regulations covering a wide variety of subject matters. New laws and regulations (or new interpretations or applications of existing laws and regulations in a manner inconsistent with our practices) may make our products and services less useful, limit our ability to pursue certain business models or offer certain products and services, require us to incur substantial costs, expose us to civil or criminal liability, or cause us to change our business practices. These laws and regulations are evolving and involve matters central to our business, including, among others:

- New competition laws and related regulations around the world, that can limit certain business practices, and in some cases, create the risk of significant penalties.
- Privacy laws, such as the California Consumer Privacy Act of 2018 that came into effect in January of 2020 and the California Privacy Rights Act which will go into effect in 2023, both of which give new data privacy rights to California residents, and SB-327 in California, which regulates the security of data in connection with internet connected devices.
- Data protection laws passed by many states within the U.S. and by certain countries regarding notification to data subjects and/or regulators when there is a security breach of personal data.
- New laws further restricting the collection, processing and/or sharing of advertising-related data.
- Copyright or similar laws around the world, including the EU Directive on Copyright in the Digital Single Market (EUCD) of April 17, 2019, which EU Member States must implement by June 7, 2021; and the News Media Bargaining Code drafted by the Australian Competition and Consumer Commission. These and similar laws that have been adopted or proposed introduce new constraining licensing regimes that could affect our ability to operate. The EUCD and similar laws could increase the liability of some content-sharing services with respect to content uploaded by their users. Some of these laws, as well as follow-on administrative or judicial actions, have also created or may create a new property right in news publications that limits the ability of some online services to interact with or present such content. They may also impose compensation negotiations with news agencies and publishers for the use of such content, which may result in payment obligations that significantly exceed the value that such content provides to Google and its users.
- Data localization laws, which generally mandate that certain types of data collected in a particular country be stored and/or processed within that country.
- Various U.S. and international laws that govern the distribution of certain materials to children and regulate the ability of online services to collect information from minors.
- Various laws with regard to content removal and disclosure obligations, such as the Network Enforcement Act in Germany, which may affect our businesses and operations and may subject us to significant fines if such laws are interpreted and applied in a manner inconsistent with our practices or when we may not proactively discover such content due to the scale of third-party content and the limitations of existing technologies. Other countries, including Singapore, Australia, and the United Kingdom, have implemented or are considering similar legislation imposing penalties for failure to remove certain types of content.
- Various legislative, litigation, and regulatory activity regarding our Google Play billing policies and business model, which could result in monetary penalties, damages and/or prohibition.

In addition, the applicability and scope of these laws, as interpreted by the courts, remain uncertain and could harm our business. For example:

- We rely on statutory safe harbors, as set forth in the Digital Millennium Copyright Act and Section 230 of the Communications Decency Act in the United States and the E-Commerce Directive in Europe, against liability for various linking, caching, and hosting activities. Any legislation or court rulings affecting these safe harbors may adversely affect us. There are legislative proposals in both the US and EU that could reduce our safe harbor protection.
- Court decisions such as the judgment of the Court of Justice of the European Union (CJEU) on May 13, 2014 on the 'right to be forgotten,' which allows individuals to demand that Google remove search results about them in certain instances, may limit the content we can show to our users and impose significant operational burdens.

The introduction of new businesses, products, services, and technologies, our activities in certain jurisdictions, or other actions we take may subject us to additional laws and regulations. Our investment in a variety of new fields, such as healthcare and payment services, may expand the scope of regulations that apply to our business. The costs of compliance with these laws and regulations are high and are likely to increase in the future. Any failure on our part to comply with laws and regulations can result in negative publicity and diversion of management time and effort and may subject us to significant liabilities and other penalties.

We are subject to claims, suits, government investigations, and other proceedings that may harm our business, financial condition, and operating results.

We are subject to claims, suits, and government investigations involving competition, intellectual property, data privacy and security, consumer protection, tax, labor and employment, commercial disputes, content generated by our users, goods and services offered by advertisers or publishers using our platforms, and other matters. Due to our manufacturing and sale of an expanded suite of products, including hardware as well as Google Cloud offerings, we also are subject to a variety of claims including product warranty, product liability, and consumer protection claims related to product defects, among other litigation. We may also be subject to claims involving health and safety, hazardous materials usage, other environmental impacts, or service disruptions or failures.

Any of these types of legal proceedings can have an adverse effect on us because of legal costs, diversion of management resources, negative publicity and other factors. Determining reserves for our pending litigation is a complex, fact-intensive process that requires significant judgment. The resolution of one or more such proceedings has resulted in, and may in the future result in, additional substantial fines, penalties, injunctions, and other sanctions that could harm our business, financial condition, and operating results.

We may be subject to legal liability associated with providing online services or content.

Our products and services let users exchange information, advertise products and services, conduct business, and engage in various online activities. We also place advertisements displayed on other companies' websites, and we offer third-party products, services, and/or content. The law relating to the liability of online service providers for others' activities on their services is still somewhat unsettled around the world. Claims have been brought against us for defamation, negligence, breaches of contract, copyright and trademark infringement, unfair competition, unlawful activity, torts, fraud, or other legal theories based on the nature and content of information available on or via our services.

We may be subject to claims by virtue of our involvement in hosting, transmitting, marketing, branding, or providing access to content created by third parties. Defense of any such actions could be costly and involve significant time and attention of our management and other resources, may result in monetary liabilities or penalties, and may require us to change our business in an adverse manner.

Privacy and data protection regulations are complex and rapidly evolving areas. Adverse interpretations of these laws could harm our business, reputation, financial condition, and operating results.

Authorities around the world have adopted and are considering a number of legislative and regulatory proposals concerning data protection and limits on encryption of user data. Adverse legal rulings, legislation, or regulation could result in fines and orders requiring that we change our data practices, which could have an adverse effect on our ability to provide services, harming our business operations. Complying with these evolving laws could result in substantial costs and harm the quality of our products and services, negatively affecting our business, and may be particularly challenging during certain times, such as a natural disaster or pandemic (including COVID-19).

Recent legal developments in Europe have created compliance uncertainty regarding transfers of personal data from Europe to the United States. For example, the General Data Protection Regulation (GDPR) applies to all of our activities conducted from an establishment in the EU or related to products and services that we offer to EU

users or customers, or the monitoring of their behavior in the EU. The GDPR creates a range of new compliance obligations.

Ensuring compliance with the GDPR is an ongoing commitment that involves substantial costs, and despite our efforts, governmental authorities or others have asserted and may continue to assert that our business practices fail to comply with its requirements. If our operations are found to violate GDPR requirements, we may incur substantial fines, have to change our business practices, and face reputational harm, any of which could have an adverse effect on our business. In particular, serious breaches of the GDPR can result in administrative fines of up to 4% of annual worldwide revenues. Fines of up to 2% of annual worldwide revenues can be levied for other specified violations.

The EU-U.S. and the Swiss-U.S. Privacy Shield frameworks allow U.S. companies that self-certify to the U.S. Department of Commerce and publicly commit to comply with specified requirements to import personal data from the EU and Switzerland. Recently, the CJEU ruled that the EU-U.S. Privacy Shield is an invalid transfer mechanism, but upheld Standard Contractual Clauses as a valid transfer mechanism, provided they meet certain requirements. The validity of data transfer mechanisms remains subject to legal, regulatory, and political developments in both Europe and the U.S., such as recent recommendations from the European Data Protection Board, the invalidation of the EU-U.S. Privacy Shield and potential invalidation of other data transfer mechanisms, which could have a significant adverse impact on our ability to process and transfer personal data outside of the EEA.

These developments create some uncertainty, and compliance obligations could cause us to incur costs or harm the operations of our products and services in ways that harm our business.

We face, and may continue to face intellectual property and other claims that could be costly to defend, result in significant damage awards or other costs (including indemnification awards), and limit our ability to use certain technologies in the future.

We, like other internet, technology and media companies, are frequently subject to litigation based on allegations of infringement or other violations of intellectual property rights. In addition, patent-holding companies may frequently seek to generate income from patents they have obtained by bringing claims against us. As we have grown, the number of intellectual property claims against us has increased and may continue to increase as we develop new products, services, and technologies.

We have had patent, copyright, trade secret, and trademark infringement lawsuits filed against us claiming that certain of our products, services, and technologies infringe the intellectual property rights of others. Other parties have also sought broad injunctive relief against us by filing claims in U.S. and international courts and the U.S. International Trade Commission (ITC) for exclusion and cease-and-desist orders, which could limit our ability to sell our products or services in the U.S. or elsewhere if our products or services or those of our customers or suppliers are found to infringe the intellectual property subject to the claims. Adverse results in any of these lawsuits may include awards of monetary damages, costly royalty or licensing agreements (if licenses are available at all), or orders preventing us from offering certain features, functionalities, products, or services. They may also cause us to change our business practices and require development of non-infringing products, services, or technologies, which could result in a loss of revenues for us and otherwise harm our business.

Many of our agreements with our customers and partners, including certain suppliers, require us to defend against certain intellectual property infringement claims and in some cases indemnify them for certain intellectual property infringement claims against them, which could result in increased costs for defending such claims or significant damages if there were an adverse ruling in any such claims. Such customers and partners may also discontinue the use of our products, services, and technologies, as a result of injunctions or otherwise, which could result in loss of revenues and adversely affect our business. Moreover, intellectual property indemnities provided to us by our suppliers, when obtainable, may not cover all damages and losses suffered by us and our customers arising from intellectual property infringement claims. Furthermore, in connection with our divestitures, we have agreed, and may in the future agree, to provide indemnification for certain potential liabilities, including those associated with intellectual property claims.

Regardless of their merits, intellectual property claims are often time consuming and expensive to litigate or settle. To the extent such claims are successful, they may harm our business, including our product and service offerings, financial condition, or operating results.

Risks Related to Ownership of our Stock

We cannot guarantee that any share repurchase program will be fully consummated or will enhance long-term stockholder value, and share repurchases could increase the volatility of our stock prices and could diminish our cash reserves.

We engage in share repurchases of our Class C capital stock from time to time in accordance with authorizations from the Board of Directors of Alphabet. Our repurchase program does not have an expiration date and does not obligate Alphabet to repurchase any specific dollar amount or to acquire any specific number of shares. Further, our share repurchases could affect our share trading prices, increase their volatility, reduce our cash reserves and may be suspended or terminated at any time, which may result in a decrease in the trading prices of our stock.

The concentration of our stock ownership limits our stockholders' ability to influence corporate matters.

Our Class B common stock has 10 votes per share, our Class A common stock has one vote per share, and our Class C capital stock has no voting rights. As of December 31, 2020, Larry Page and Sergey Brin beneficially owned approximately 85.3% of our outstanding Class B common stock, which represented approximately 51.5% of the voting power of our outstanding common stock. Through their stock ownership, Larry and Sergey have significant influence over all matters requiring stockholder approval, including the election of directors and significant corporate transactions, such as a merger or other sale of our company or our assets, for the foreseeable future. In addition, because our Class C capital stock carries no voting rights (except as required by applicable law), the issuance of the Class C capital stock, including in future stock-based acquisition transactions and to fund employee equity incentive programs, could continue Larry and Sergey's current relative voting power and their ability to elect all of our directors and to determine the outcome of most matters submitted to a vote of our stockholders. This concentrated control limits or severely restricts other stockholders' ability to influence corporate matters and we may take actions that some of our stockholders do not view as beneficial, which could reduce the market price of our Class A common stock and our Class C capital stock.

Provisions in our charter documents and under Delaware law could discourage a takeover that stockholders may consider favorable.

Provisions in Alphabet's certificate of incorporation and bylaws may have the effect of delaying or preventing a change of control or changes in our management. These provisions include the following:

- Our certificate of incorporation provides for a tri-class capital stock structure. As a result of this structure, Larry and Sergey have significant influence over all matters requiring stockholder approval, including the election of directors and significant corporate transactions, such as a merger or other sale of our company or our assets. This concentrated control could discourage others from initiating any potential merger, takeover, or other change of control transaction that other stockholders may view as beneficial. As noted above, the issuance of the Class C capital stock could have the effect of continuing the influence of Larry and Sergey.
- Our Board of Directors has the right to elect directors to fill a vacancy created by the expansion of the Board of Directors or the resignation, death, or removal of a director, which prevents stockholders from being able to fill vacancies on our Board of Directors.
- Our stockholders may not act by written consent. As a result, a holder, or holders, controlling a majority of our capital stock would not be able to take certain actions without holding a stockholders' meeting.
- Our certificate of incorporation prohibits cumulative voting in the election of directors. This limits the ability of minority stockholders to elect director candidates.
- Stockholders must provide advance notice to nominate individuals for election to the Board of Directors or to propose matters that can be acted upon at a stockholders' meeting. These provisions may discourage or deter a potential acquirer from conducting a solicitation of proxies to elect the acquirer's own slate of directors or otherwise attempting to obtain control of our company.
- Our Board of Directors may issue, without stockholder approval, shares of undesignated preferred stock. The ability to issue undesignated preferred stock makes it possible for our Board of Directors to issue preferred stock with voting or other rights or preferences that could impede the success of any attempt to acquire us.

As a Delaware corporation, we are also subject to certain Delaware anti-takeover provisions. Under Delaware law, a corporation may not engage in a business combination with any holder of 15% or more of its outstanding voting stock unless the holder has held the stock for three years or, among other things, the Board of Directors has approved the transaction. Our Board of Directors could rely on Delaware law to prevent or delay an acquisition of us.

General Risks

The continuing impacts of COVID-19 are highly unpredictable and could be significant, and may have an adverse effect on our business, operations and our future financial performance.

Since COVID-19 was declared a global pandemic by the World Health Organization, governments and municipalities around the world have instituted measures in an effort to control the spread of COVID-19, including quarantines, shelter-in-place orders, school closings, travel restrictions, and closure of non-essential businesses. The macroeconomic impacts on our business continue to evolve and be unpredictable and may continue to adversely affect our business, operations and financial performance. As a result of the scale of the ongoing pandemic and the speed at which the global community has been impacted, our revenue growth rate and expense as a percentage of our revenues in future periods may differ significantly from our historical rate, and our future operating results may fall below expectations.

The future impacts of the ongoing pandemic on our business, operations and future financial performance could include, but are not limited to:

- Significant decline in advertising revenues as advertiser spending slows due to an economic downturn. This decline in advertising revenues could persist through and beyond a recessionary period. In addition, we may experience a significant and prolonged shift in user behavior such as a shift in interests to less commercial topics.
- Significant decline in other revenues due to a decline or shifts in customer demand. For example, if consumer demand for electronics significantly declines, our hardware revenues could be significantly impacted.
- Adverse impacts to our operating income, operating margin, net income, EPS and respective growth rates - particularly if expenses do not decrease across Alphabet at the same pace as revenue declines. Many of our expenses are less variable in nature and/or may not correlate to changes in revenues, including costs associated with our data centers and facilities as well as employee compensation. As such, we may not be able to decrease them significantly in the short-term, or we may choose not to significantly reduce them in an effort to remain focused on long-term outlook and investment opportunities.
- Significant decline in our operating cash flows as a result of decreased advertiser spending and deterioration in the credit quality and liquidity of our customers, which could adversely affect our accounts receivable. Investing cash flows could decrease due to slowing spend on data center and facilities construction projects due to a slowing or stopping of construction or significant restrictions placed on construction.
- The prolonged and broad-based shift to a remote working environment continues to create inherent productivity, connectivity, and oversight challenges and could affect our ability to enhance, develop and support existing products and services, detect and prevent spam and problematic content, hold product sales and marketing events, and generate new sales leads, among others. In addition, the changed environment under which we are operating could have an effect on our internal controls over financial reporting as well as our ability to meet a number of our compliance requirements in a timely or quality manner. Additional and/or extended, governmental lockdowns, restrictions or new regulations could significantly impact the ability of our employees and vendors to work productively. Governmental restrictions have been globally inconsistent and it remains unclear when a return to worksite locations or travel will be permitted or what restrictions will be in place in those environments. As we prepare to return our workforce in more locations back to the office in 2021, we may experience increased costs as we prepare our facilities for a safe return to work environment and experiment with hybrid work models, in addition to potential effects on our ability to compete effectively and maintain our corporate culture.

Our operating results may fluctuate, which makes our results difficult to predict and could cause our results to fall short of expectations.

Our operating results may fluctuate as a result of a number of factors, many outside of our control.

As a result, comparing our operating results (including our expenses as a percentage of our revenues) on a period-to-period basis may not be meaningful, and you should not rely on our past results as an indication of our future performance. Our operating results in future quarters may fall below expectations. Any of these events could cause our stock price to fall. Each of the risk factors listed under this Item 1A in addition to the following factors may affect our operating results:

- Our ability to attract user and/or customer adoption of, and generate significant revenues from, new products, services, and technologies in which we have invested considerable time and resources.

- Our ability to monetize traffic on Google Search & other properties, YouTube and our Google Network Members' properties across various devices.
- The amount and timing of operating costs and expenses and capital expenditures related to the maintenance and expansion of our businesses, operations, and infrastructure.
- Our focus on long-term goals over short-term results.
- The results of our acquisitions, divestitures, and our investments in risky projects, including new businesses, products, services, and technologies.
- Our ability to keep our products and services operational at a reasonable cost and without service interruptions.
- The seasonal fluctuations in internet usage, advertising spending, and underlying business trends such as traditional retail seasonality. Our rapid growth has tended to mask the cyclicality and seasonality of our business. As our growth rate has slowed, the cyclicality and seasonality in our business has become more pronounced and caused our operating results to fluctuate.
- Geopolitical events, including trade disputes.
- Changes in global business or macroeconomic conditions.

Acquisitions, joint ventures, investments, and divestitures could result in operating difficulties, dilution, and other consequences that may harm our business, financial condition, and operating results.

Acquisitions, joint ventures, investments and divestitures are important elements of our overall corporate strategy and use of capital, and these transactions could be material to our financial condition and operating results. We expect to continue to evaluate and enter into discussions regarding a wide array of such potential strategic transactions, which could create unforeseen operating difficulties and expenditures. Some of the areas where we face risks include:

- Diversion of management time and focus from operating our business to challenges related to acquisitions and other strategic transactions.
- Failure to successfully integrate and further develop the acquired business or technology.
- Implementation or remediation of controls, procedures, and policies at the acquired company.
- Integration of the acquired company’s accounting, human resource, and other administrative systems, and coordination of product, engineering, and sales and marketing functions.
- Transition of operations, users, and customers onto our existing platforms.
- Failure to obtain required approvals on a timely basis, if at all, from governmental authorities, or conditions placed upon approval that could, among other things, delay or prevent us from completing a transaction, or otherwise restrict our ability to realize the expected financial or strategic goals of a transaction.
- In the case of foreign acquisitions, the need to integrate operations across different cultures and languages and to address the particular economic, currency, political, and regulatory risks associated with specific countries.
- Cultural challenges associated with integrating employees from the acquired company into our organization, and retention of employees from the businesses we acquire.
- Liability for activities of the acquired company before the acquisition, including patent and trademark infringement claims, data privacy and security issues, violations of laws, commercial disputes, tax liabilities, and other known and unknown liabilities.
- Litigation or other claims in connection with the acquired company, including claims from terminated employees, customers, former stockholders, or other third parties.

Our failure to address these risks or other problems encountered in connection with our past or future acquisitions and other strategic transactions could cause us to fail to realize their anticipated benefits, incur unanticipated liabilities, and harm our business generally.

Our acquisitions and other strategic transactions could also result in dilutive issuances of our equity securities, the incurrence of debt, contingent liabilities, or amortization expenses, or impairment of goodwill and/or purchased long-lived assets, and restructuring charges, any of which could harm our financial condition or operating results.

Also, the anticipated benefits or value of our acquisitions and other strategic transactions may not materialize. In connection with our divestitures, we have agreed, and may in the future agree, to provide indemnification for certain potential liabilities, which may harm our financial condition or operating results.

If we were to lose the services of key personnel, we may not be able to execute our business strategy.

Our future success depends in large part upon the continued service of key members of our senior management team. For instance, Sundar Pichai is critical to the overall management of Alphabet and its subsidiaries and plays an important role in the development of our technology, maintaining our culture and setting our strategic direction. All of our executive officers and key employees are at-will employees, and we do not maintain any key-person life insurance policies. The loss of key personnel could seriously harm our business.

We rely on highly skilled personnel and, if we are unable to retain or motivate key personnel, hire qualified personnel, or maintain our corporate culture, we may not be able to grow effectively.

Our performance largely depends on the talents and efforts of highly skilled individuals. Our ability to compete effectively and our future success depends on our continuing to identify, hire, develop, motivate, and retain highly skilled personnel for all areas of our organization. Competition in our industry for qualified employees is intense, and certain of our competitors have directly targeted our employees. In addition, our compensation arrangements, such as our equity award programs, may not always be successful in attracting new employees and retaining and motivating our existing employees. Restrictive immigration policy and regulatory changes may also impact our ability to hire, mobilize or retain some of our global talent.

In addition, we believe that our corporate culture fosters innovation, creativity, and teamwork. As our organization grows and evolves, we may need to implement more complex organizational management structures or adapt our corporate culture and work environments to ever-changing circumstances, such as during times of a natural disaster or pandemic (including COVID-19), and these changes could impact our ability to compete effectively or have an adverse impact on our corporate culture.

We are exposed to fluctuations in the market values of our investments and, in some instances, our financial statements incorporate valuation methodologies that are subjective in nature resulting in fluctuations over time.

The market value of our investments can be negatively affected by liquidity, credit deterioration or losses, performance and financial results of the underlying entities, foreign exchange rates, changes in interest rates, including changes that may result from the implementation of new benchmark rates, the effect of new or changing regulations, the stock market in general, or other factors. The effect of COVID-19 on our impairment assessment for non-marketable investments requires significant judgment due to the uncertainty around the duration and severity of the impact.

We measure certain of our non-marketable equity and debt investments, certain other instruments including stock-based compensation awards settled in the stock of certain Other Bets, and certain assets and liabilities acquired in a business combination, at fair value on a nonrecurring basis. The determination of fair value involves use of appropriate valuation methods and certain unobservable inputs, require management judgment and estimation, and may change over time.

We adjust the carrying value of our non-marketable equity investments to fair value for observable transactions of identical or similar investments of the same issuer or for impairments. All gains and losses on non-marketable equity securities, realized and unrealized, are recognized in other income (expense), which increases the volatility of our other income (expense). The unrealized gains and losses we record on our non-marketable equity securities in any particular period may differ significantly from the realized gains or losses we ultimately experience on such investments.

As a result of these factors, the value or liquidity of our cash equivalents, as well as our marketable and non-marketable securities could decline and result in a material impairment, which could adversely affect our financial condition and operating results.

We could be subject to changes in tax rates, the adoption of new U.S. or international tax legislation, or exposure to additional tax liabilities.

Our future income taxes could be negatively affected by earnings being lower than anticipated in jurisdictions that have lower statutory tax rates and higher than anticipated in jurisdictions that have higher statutory tax rates, the net gains and losses recognized by legal entities on certain hedges and related hedged intercompany and other transactions under our foreign exchange risk management program, changes in the valuation of our deferred tax

assets or liabilities, the application of different provisions of tax laws or changes in tax laws, regulations, or accounting principles (including changes in the interpretation of existing laws), as well as certain discrete items.

In addition, we are subject to regular review and audit by both domestic and foreign tax authorities. As a result, we have received, and may in the future receive, assessments in multiple jurisdictions, including in Europe, on various tax-related assertions, such as transfer-pricing adjustments or permanent-establishment claims. Any adverse outcome of such a review or audit could have a negative effect on our operating results and financial condition and could require us to change our business practices in a manner adverse to our business. It may also subject us to additional litigation and regulatory inquiries, resulting in the diversion of management's time and attention. In addition, the determination of our worldwide provision for income taxes and other tax liabilities requires significant judgment, and there are many transactions and calculations for which the ultimate tax determination is uncertain. Although we believe our estimates are reasonable, the ultimate tax outcome may differ from the amounts recorded in our financial statements and may affect our financial results in the period or periods for which such determination is made.

Furthermore, due to shifting economic and political conditions, tax policies, laws, or rates in various jurisdictions may be subject to significant changes in ways that impair our financial results. Various jurisdictions around the world have enacted or are considering digital services taxes, which could lead to inconsistent and potentially overlapping international tax regimes. The Organization for Economic Cooperation and Development (OECD) recently released proposals relating to its initiative for modernizing international tax rules, with the goal of having different countries implement a modernized and aligned international tax framework, but there can be no guarantee that this will occur.

In addition, in response to significant market volatility and disruptions to business operations resulting from the global spread of COVID-19, legislatures and taxing authorities in many jurisdictions in which we operate may propose changes to their tax rules. These changes could include modifications that have temporary effect, and more permanent changes. The impact of these potential new rules on us, our long-term tax planning, and our effective tax rate could be material.

The trading price for our Class A common stock and non-voting Class C capital stock may continue to be volatile.

The trading price of our stock has at times experienced substantial price volatility and may continue to be volatile.

In addition to the factors discussed in this report, the trading price of our Class A common stock and Class C capital stock may fluctuate widely in response to various factors, many of which are beyond our control, including, among others announcements by us or our competitors of acquisitions, divestitures, investments, new products, significant contracts, commercial relationships, or capital commitments; recommendations by securities analysts or changes in their earnings estimates; announcements about our or our competitors' earnings that are not in line with analyst expectations, the risk of which is enhanced, in our case, because it is our policy not to give guidance on earnings; commentary by industry and market professionals about our products, strategies, and other matters affecting our business and results, regardless of its accuracy; the volume of shares of Class A common stock and Class C capital stock available for public sale; sales of Class A common stock and Class C capital stock by us or by our stockholders (including sales by our directors, executive officers, and other employees); short sales, hedging, and other derivative transactions on shares of our Class A common stock and Class C capital stock; the size, timing and share class of any share repurchase program; and the perceived values of Class A common stock and Class C capital stock relative to one another.

In addition, the stock market in general, which can be affected by various factors, including overall economic and political conditions, and the market for technology companies in particular, have experienced extreme price and volume fluctuations that have often been unrelated or disproportionate to the operating performance of those companies.

These broad market and industry factors may harm the market price of our Class A common stock and our Class C capital stock, regardless of our actual operating performance.

ITEM 1B. UNRESOLVED STAFF COMMENTS

Not applicable.

ITEM 2. PROPERTIES

Our headquarters are located in Mountain View, California. We also own and lease office and building space in the surrounding areas near our headquarters, which we believe is sufficient to accommodate anticipated future growth. In addition, we own and lease office/building space and research and development sites around the world, primarily in North America, Europe, South America, and Asia. We own and operate data centers in the U.S., Europe, South America, and Asia. We believe our existing facilities, both owned and leased, are in good condition and suitable for the conduct of our business.

ITEM 3. LEGAL PROCEEDINGS

For a description of our material pending legal proceedings, please see Legal Matters in Note 10 of the Notes to Consolidated Financial Statements included in Part II, Item 8 of this Annual Report on Form 10-K, which is incorporated herein by reference.

ITEM 4. MINE SAFETY DISCLOSURES

Not applicable.

PART II

ITEM 5. MARKET FOR REGISTRANT'S COMMON EQUITY, RELATED STOCKHOLDER MATTERS AND ISSUER PURCHASES OF EQUITY SECURITIES

As of October 2, 2015, Alphabet Inc. became the successor issuer of Google Inc. pursuant to Rule 12g-3(a) under the Exchange Act. Our Class A common stock has been listed on the Nasdaq Global Select Market under the symbol "GOOG" since August 19, 2004 and under the symbol "GOOGL" since April 3, 2014. Prior to August 19, 2004, there was no public market for our stock. Our Class B common stock is neither listed nor traded. Our Class C capital stock has been listed on the Nasdaq Global Select Market under the symbol "GOOG" since April 3, 2014.

Holders of Record

As of December 31, 2020, there were approximately 4,337 and 1,942 stockholders of record of our Class A common stock and Class C capital stock, respectively. Because many of our shares of Class A common stock and Class C capital stock are held by brokers and other institutions on behalf of stockholders, we are unable to estimate the total number of stockholders represented by these record holders. As of December 31, 2020, there were approximately 64 stockholders of record of our Class B common stock.

Dividend Policy

We have never declared or paid any cash dividend on our common or capital stock. The primary use of capital continues to be to invest for the long term growth of the business. We regularly evaluate our cash and capital structure, including the size, pace and form of capital return to stockholders.

Issuer Purchases of Equity Securities

The following table presents information with respect to Alphabet's repurchases of Class C capital stock during the quarter ended December 31, 2020:

Period	Total Number of Shares Purchased (in thousands) (1)	Average Price Paid per Share (2)	Total Number of Shares Purchased as Part of Publicly Announced Programs (in thousands) (1)	Approximate Dollar Value of Shares that May Yet Be Purchased Under the Program (in millions)
October 1 - 31	1,869	$ 1,540.84	1,869	$ 22,667
November 1 - 30	1,640	$ 1,748.65	1,640	$ 19,799
December 1 - 31	1,205	$ 1,787.62	1,205	$ 17,645
Total	4,714		4,714	

(1) The repurchases are being executed from time to time, subject to general business and market conditions and other investment opportunities, through open market purchases or privately negotiated transactions, including through Rule 10b5-1 plans. The repurchase program does not have an expiration date. Please refer to Note 11 of the Notes to Consolidated Financial Statements included in Part II, Item 8 of this Annual Report on Form 10-K for additional information related to share repurchases.

(2) Average price paid per share includes costs associated with the repurchases.

Stock Performance Graphs

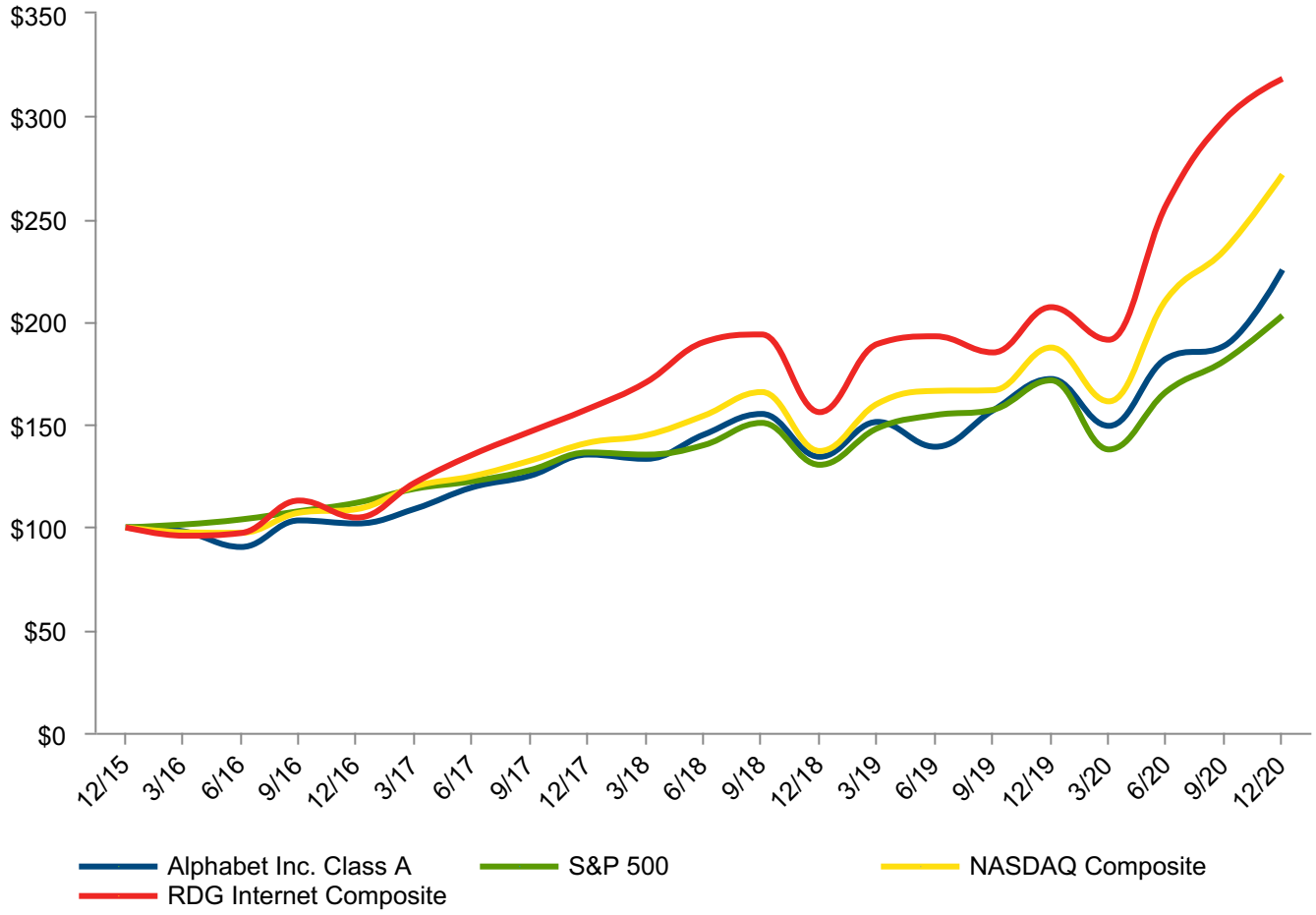
The graph below matches Alphabet Inc. Class A's cumulative 5-Year total shareholder return on common stock with the cumulative total returns of the S&P 500 index, the NASDAQ Composite index, and the RDG Internet Composite index. The graph tracks the performance of a $100 investment in our common stock and in each index (with the reinvestment of all dividends) from December 31, 2015 to December 31, 2020. The returns shown are based on historical results and are not intended to suggest future performance.

COMPARISON OF 5 YEAR CUMULATIVE TOTAL RETURN*

ALPHABET INC. CLASS A COMMON STOCK

Among Alphabet Inc., the S&P 500 Index, the

NASDAQ Composite Index, and the RDG Internet Composite Index



*$100 invested on December 31, 2015 in stock or index, including reinvestment of dividends. Fiscal year ending December 31.

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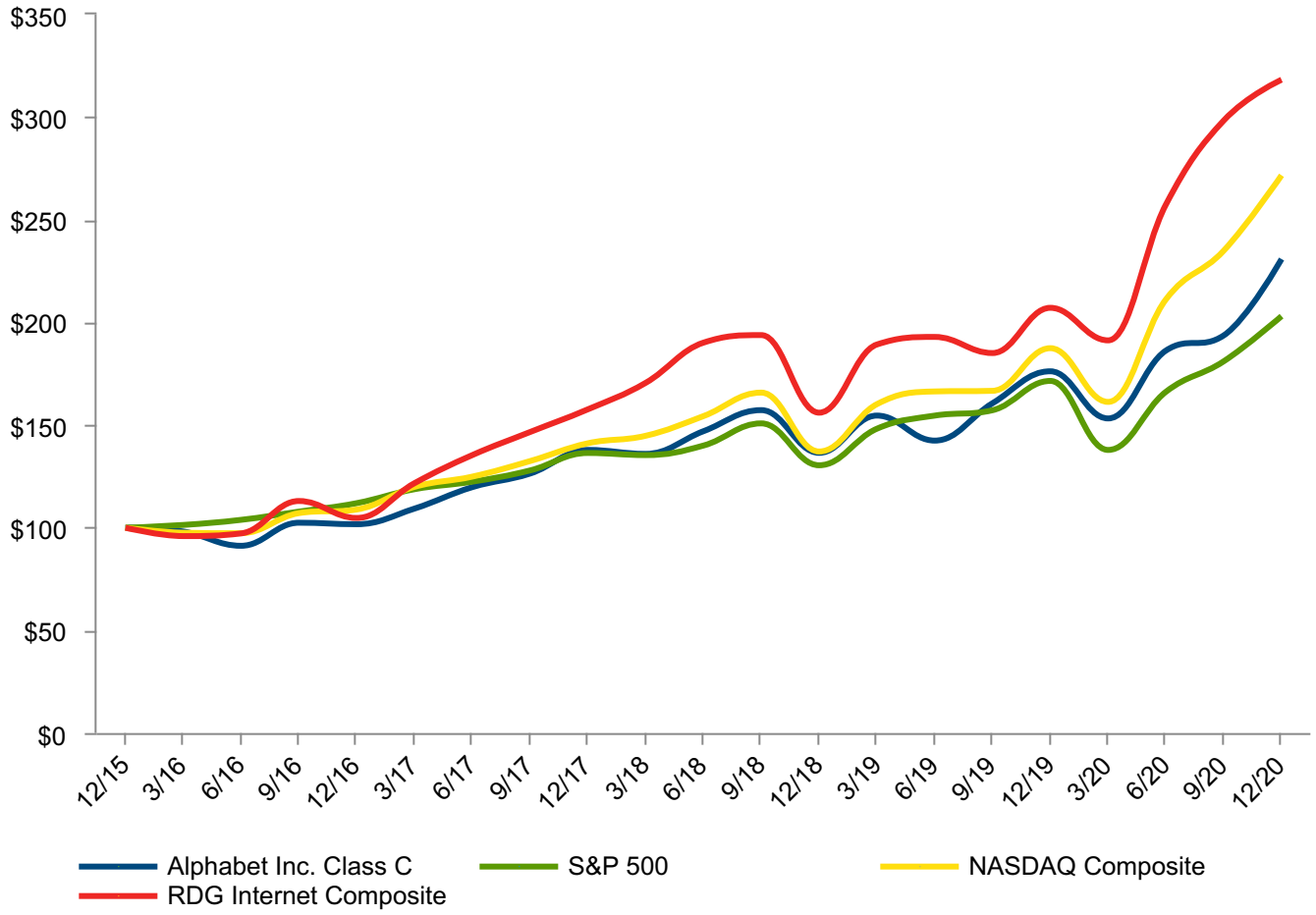
The graph below matches Alphabet Inc. Class C's cumulative 5-Year total shareholder return on capital stock with the cumulative total returns of the S&P 500 index, the NASDAQ Composite index, and the RDG Internet Composite index. The graph tracks the performance of a $100 investment in our Class C capital stock and in each index (with the reinvestment of all dividends) from December 31, 2015 to December 31, 2020. The returns shown are based on historical results and are not intended to suggest future performance.

COMPARISON OF CUMULATIVE TOTAL RETURN*

ALPHABET INC. CLASS C CAPITAL STOCK

Among Alphabet Inc., the S&P 500 Index, the

NASDAQ Composite Index, and the RDG Internet Composite Index



*$100 invested on December 31, 2015 in stock or in index, including reinvestment of dividends. Fiscal year ending December 31.

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ITEM 6. SELECTED FINANCIAL DATA

The following selected consolidated financial data should be read in conjunction with Item 7 “Management’s Discussion and Analysis of Financial Condition and Results of Operations” and our consolidated financial statements and the related notes appearing in Item 8 “Financial Statements and Supplementary Data” of this Annual Report on Form 10-K. The historical results are not necessarily indicative of the results to be expected in any future period.

	Year Ended December 31,				
	2016	2017	2018	2019	2020
	(in millions, except per share amounts)				
Consolidated Statements of Income Data:					
Revenues	$ 90,272	$ 110,855	$ 136,819	$ 161,857	$ 182,527
Income from operations	$ 23,737	$ 26,178	$ 27,524	$ 34,231	$ 41,224
Net income	$ 19,478	$ 12,662	$ 30,736	$ 34,343	$ 40,269
Basic net income per share of Class A and B common stock	$ 28.32	$ 18.27	$ 44.22	$ 49.59	$ 59.15
Basic net income per share of Class C capital stock	$ 28.32	$ 18.27	$ 44.22	$ 49.59	$ 59.15
Diluted net income per share of Class A and B common stock	$ 27.85	$ 18.00	$ 43.70	$ 49.16	$ 58.61
Diluted net income per share of Class C capital stock	$ 27.85	$ 18.00	$ 43.70	$ 49.16	$ 58.61

	As of December 31,				
	2016	2017	2018	2019	2020
	(in millions)				
Consolidated Balance Sheet Data:					
Cash, cash equivalents, and marketable securities	$ 86,333	$ 101,871	$ 109,140	$ 119,675	$ 136,694
Total assets	$ 167,497	$ 197,295	$ 232,792	$ 275,909	$ 319,616
Total long-term liabilities	$ 11,705	$ 20,610	$ 20,544	$ 29,246	$ 40,238
Total stockholders’ equity	$ 139,036	$ 152,502	$ 177,628	$ 201,442	$ 222,544

ITEM 7. MANAGEMENT'S DISCUSSION AND ANALYSIS OF FINANCIAL CONDITION AND RESULTS OF OPERATIONS

Please read the following discussion and analysis of our financial condition and results of operations together with our consolidated financial statements and related notes included under Part II, Item 8 of this Annual Report on Form 10-K.

We have omitted discussion of 2018 results where it would be redundant to the discussion previously included in Part II, Item 7 of our 2019 Annual Report on Form 10-K.

Trends in Our Business

The following long-term trends have contributed to the results of our consolidated operations, and we anticipate that they will continue to affect our future results:

- **Users' behaviors and advertising continue to shift online as the digital economy evolves.**

The continuing shift from an offline to online world has contributed to the growth of our business since inception, contributing to revenue growth, and we expect that this online shift will continue to benefit our business.

- **Users are increasingly using diverse devices and modalities to access our products and services, and our advertising revenues are increasingly coming from new formats.**

Our users are accessing the Internet via diverse devices and modalities, such as smartphones, wearables and smart home devices, and want to feel connected no matter where they are or what they are doing. We seek to expand our products and services to stay in front of these trends in order to maintain and grow our business.

We generate our advertising revenues increasingly from different channels, including mobile, and newer advertising formats, and the margins from the advertising revenues from these channels and newer products have generally been lower than those from traditional desktop search. Additionally, as the market for a particular device type or modality matures, our revenues may be affected. For example, growth in the global smartphone market has slowed due to various factors, including increased market saturation in developed countries, which can affect our mobile advertising revenue growth rates.

We expect TAC paid to our distribution partners and Google Network Members to increase as our revenues grow and to be affected by changes in device mix; geographic mix; partner mix; partner agreement terms; the percentage of queries channeled through paid access points; product mix; the relative revenue growth rates of advertising revenues from different channels; and revenue share terms.

We expect these trends to continue to affect our revenue growth rates and put pressure on our overall margins.

- **As online advertising evolves, we continue to expand our product offerings which may affect our monetization.**

As interactions between users and advertisers change and as online user behavior evolves, we continue to expand and evolve our product offerings to serve their changing needs. Over time, we expect our monetization trends to fluctuate. For example, we have seen an increase in YouTube ads and Google Play ads, which monetize at a lower rate than our traditional search ads.

- **As users in developing economies increasingly come online, our revenues from international markets continue to increase and movements in foreign exchange rates affect such revenues.**

The shift to online, as well as the advent of the multi-device world, has brought opportunities outside of the U.S., including in emerging markets, such as India, where we continue to invest heavily and develop localized versions of our products and relevant advertising programs useful to our users in these markets. This has led to a trend of increased revenues from international markets over time, as regions with emerging markets, such as APAC, have demonstrated higher revenue growth rates. We expect that our results will continue to be affected by our performance in these markets, particularly as low-cost mobile devices become more available. This trend could impact our margins as developing markets initially monetize at a lower rate than more mature markets.

Our international revenues represent a significant portion of our revenues and are subject to fluctuations in foreign currency exchange rates relative to the U.S. dollar. While we have a foreign exchange risk management program designed to reduce our exposure to these fluctuations, this program does not fully offset their effect on our revenues and earnings.

- **The portion of our revenues that we derive from non-advertising revenues is increasing and may affect margins.**

Non-advertising revenues have grown over time. We expect this trend to continue as we focus on expanding our offerings to our users through products and services like Google Cloud, Google Play, hardware products, and YouTube subscriptions. Across these initiatives, we currently derive non-advertising revenues primarily from sales of apps, in-app purchases, digital content products, and hardware; and licensing and service fees, including fees received for Google Cloud services and subscription and other services. The margins on these revenues vary significantly and may be lower than the margins on our advertising revenues. A number of our Other Bets initiatives are in their initial development stages, and as such, the sources of revenues from these businesses could change over time and the revenues could be volatile.

- **As we continue to serve our users and expand our businesses, we will invest heavily in operating and capital expenditures.**

We continue to make significant R&D investments in areas of strategic focus such as advertising, cloud, machine learning, and search, as well as in new products and services. In addition, we expect to continue to invest in land and buildings for data centers and offices, and information technology assets, which includes servers and network equipment, to support the long-term growth of our business.

In addition, acquisitions and strategic investments are an important part of our strategy and use of capital, contributing to the breadth and depth of our offerings, expanding our expertise in engineering and other functional areas, and building strong partnerships around strategic initiatives. For example, in 2020 we announced our Google for India Digitization Fund to invest approximately $10 billion into India over the next 5-7 years through a mix of equity investments, partnerships, and operational, infrastructure and ecosystem investments.

- **We face continuing changes in regulatory conditions, laws and public policies, which could impact our business practices and financial results.**

Changes in social, political, economic, tax, and regulatory conditions or in laws and policies governing a wide range of topics and related legal matters have resulted in fines and caused us to change our business practices. As these global trends continue, for example the recent antitrust complaints filed by the U.S. Department of Justice and a number of state Attorneys General as well as the News Media Bargaining Code drafted by the Australian Competition and Consumer Commission, our cost of doing business may increase and our ability to pursue certain business models or offer certain products or services may be limited.

- **Our employees are critical to our success and we expect to continue investing in them.**

Our employees are among our best assets and are critical for our continued success. We expect to continue hiring talented employees around the globe and to provide competitive compensation programs to our employees.

The Impact of COVID-19 on our Results and Operations

In late 2019, an outbreak of COVID-19 emerged and by March 11, 2020 was declared a global pandemic by the World Health Organization. Across the United States and the world, governments and municipalities instituted measures in an effort to control the spread of COVID-19, including quarantines, shelter-in-place orders, school closings, travel restrictions and the closure of non-essential businesses. The macroeconomic impacts of COVID-19 are significant and continue to evolve, as exhibited by, among other things, a rise in unemployment, changes in consumer behavior, and market volatility.

We began to observe the impact of COVID-19 and the related reductions in global economic activity on our financial results in March 2020 when, despite an increase in users' search activity, our advertising revenues declined compared to the prior year due to a shift of user search activity to less commercial topics and reduced spending by our advertisers. During the course of the quarter ended June 30, 2020, we observed a gradual return in user search activity to more commercial topics, followed by increased spending by our advertisers that continued throughout the second half of 2020.

We continue to assess the realized and potential credit deterioration of our customers due to changes in the macroeconomic environment, which has been reflected in our allowance for credit losses for accounts receivable. Additionally, over the course of the year we experienced variability in our margins as many of our expenses are less variable in nature and/or may not correlate to changes in revenues, including costs associated with our data centers and facilities as well as employee compensation. Also, market volatility has contributed to fluctuations in the valuation of our equity investments.

While we continued to make investments in land and buildings for data centers, offices and information technology, in 2020 we slowed the pace of our investments, primarily as it relates to office facilities, as a result of COVID-19.

The ongoing impact of COVID-19 on our business continues to evolve and be unpredictable. For example, to the extent the pandemic disrupts economic activity globally we, like other businesses, are not immune to continued adverse impacts to our business, operations and financial results from volatility in advertising spending, changes in user behavior and preferences, credit deterioration and liquidity of our customers, depressed economic activity, or volatility in capital markets. The ongoing impact will depend on a number of factors, including the duration and severity of the pandemic; the uneven impact to certain industries; advances in testing, treatment and prevention including vaccines; and the macroeconomic impact of government measures to contain the spread of the virus and related government stimulus measures.

To address the potential impact to our business, over the near-term, we continue to evaluate the pace of our investment plans, including, but not limited to, our hiring, investments in data centers, servers, network equipment, real estate and facilities, marketing and travel spending, as well as taking certain measures to support our customers, our overall workforce, and communities we operate in. As we look to return our workforce in more locations back to the office in 2021, we may experience increased costs as we prepare our facilities for a safe return to work environment and experiment with hybrid work models. At the same time, we believe the current environment is accelerating digital transformation and we remain focused on innovating and investing in the services we offer to consumers and businesses. For example, as it relates to Google Cloud, we continue to invest aggressively around the globe in our go-to-market capabilities, product development and technical infrastructure to support long term growth. The ongoing impact of COVID-19 and the extent of these measures we have taken and the additional measures that we may implement could have a material impact on our financial results. Our past results may not be indicative of our future performance, and historical trends in our financial results may differ materially.

Executive Overview

The following table summarizes our consolidated financial results for the years ended December 31, 2019 and 2020 (in millions, except for per share information and percentages).

	Year Ended December 31,	
	2019	2020
Revenues	$161,857	$182,527
Increase in revenues year over year	18 %	13 %
Increase in constant currency revenues year over year	20 %	14 %
Operating income[(1)]	$ 34,231	$ 41,224
Operating margin[(1)]	21 %	23 %
Other income (expense), net	$ 5,394	$ 6,858
Net Income[(1)]	$ 34,343	$ 40,269
Diluted EPS[(1)]	$ 49.16	$ 58.61

(1) Results for 2019 include the effect of the $1.7 billion EC fine. See Note 10 of the Notes to Consolidated Financial Statements included in Part II, Item 8 of this Annual Report on Form 10-K for further information.

- Total revenues were $182.5 billion, an increase of 13% year over year, primarily driven by an increase in Google Services segment revenues of $16.8 billion or 11% and an increase in Google Cloud segment revenues of $4.1 billion or 46%. Revenues from the United States, EMEA, APAC, and Other Americas were $85.0 billion, $55.4 billion, $32.6 billion, and $9.4 billion, respectively.
- Total cost of revenues was $84.7 billion, an increase of 18% year over year. TAC was $32.8 billion, an increase of 9% year over year, primarily driven by an increase in revenues subject to TAC. Other cost of revenues were $51.9 billion, an increase of 24% year over year, primarily driven by an increase in data centers and other operations costs and content acquisition costs.

- Operating expenses were $56.6 billion, an increase of 5% year over year primarily driven by headcount growth and partially offset by declines in advertising and promotional expenses and travel and entertainment expenses.

Other information:

- Operating cash flow was $65.1 billion.
- Capital expenditures, which primarily included investments in technical infrastructure, were $22.3 billion.
- Number of employees was 135,301 as of December 31, 2020. The majority of new hires during the year were engineers and product managers.

Our Segments

Beginning in the fourth quarter of 2020, we report our segment results as Google Services, Google Cloud, and Other Bets:

- Google Services includes products and services such as ads, Android, Chrome, hardware, Google Maps, Google Play, Search, and YouTube. Google Services generates revenues primarily from advertising; sales of apps, in-app purchases, digital content products, and hardware; and fees received for subscription-based products such as YouTube Premium and YouTube TV.
- Google Cloud includes Google's infrastructure and data analytics platforms, collaboration tools, and other services for enterprise customers. Google Cloud generates revenues primarily from fees received for Google Cloud Platform ("GCP") services and Google Workspace (formerly known as G Suite) collaboration tools.
- Other Bets is a combination of multiple operating segments that are not individually material. Revenues from the Other Bets are derived primarily through the sale of internet services as well as licensing and R&D services.

Unallocated corporate costs primarily include corporate initiatives, corporate shared costs, such as finance and legal, including fines and settlements, as well as costs associated with certain shared research and development activities. Additionally, hedging gains (losses) related to revenue are included in corporate costs.

Financial Results

Revenues

The following table presents our revenues by type (in millions).

	Year Ended December 31,	
	2019	2020
Google Search & other	$ 98,115	$ 104,062
YouTube ads	15,149	19,772
Google Network Members' properties	21,547	23,090
Google advertising	134,811	146,924
Google other	17,014	21,711
Google Services total	151,825	168,635
Google Cloud	8,918	13,059
Other Bets	659	657
Hedging gains (losses)	455	176
Total revenues	$ 161,857	$ 182,527

Google Services

Google advertising revenues

Our advertising revenue growth, as well as the change in paid clicks and cost-per-click on Google Search & other properties and the change in impressions and cost-per-impression on Google Network Members' properties and the correlation between these items, have been affected and may continue to be affected by various factors, including:

- advertiser competition for keywords;
- changes in advertising quality, formats, delivery or policy;

- changes in device mix;
- changes in foreign currency exchange rates;
- fees advertisers are willing to pay based on how they manage their advertising costs;
- general economic conditions including the impact of COVID-19;
- seasonality; and
- traffic growth in emerging markets compared to more mature markets and across various advertising verticals and channels.

Our advertising revenue growth rate has been affected over time as a result of a number of factors, including challenges in maintaining our growth rate as revenues increase to higher levels; changes in our product mix; changes in advertising quality or formats and delivery; the evolution of the online advertising market; increasing competition; our investments in new business strategies; query growth rates; and shifts in the geographic mix of our revenues. We also expect that our revenue growth rate will continue to be affected by evolving user preferences, the acceptance by users of our products and services as they are delivered on diverse devices and modalities, our ability to create a seamless experience for both users and advertisers, and movements in foreign currency exchange rates.

Google advertising revenues consist primarily of the following:

- Google Search & other consists of revenues generated on Google search properties (including revenues from traffic generated by search distribution partners who use Google.com as their default search in browsers, toolbars, etc.) and other Google owned and operated properties like Gmail, Google Maps, and Google Play;
- YouTube ads consists of revenues generated on YouTube properties; and
- Google Network Members' properties consist of revenues generated on Google Network Members' properties participating in AdMob, AdSense, and Google Ad Manager.

Google Search & other

Google Search & other revenues increased $5,947 million from 2019 to 2020. The overall growth was primarily driven by interrelated factors including increases in search queries resulting from ongoing growth in user adoption and usage, primarily on mobile devices, growth in advertiser spending primarily in the second half of the year, and improvements we have made in ad formats and delivery. This increase was partially offset by a decline in advertiser spending primarily in the first half of the year driven by the impact of COVID-19.

YouTube ads

YouTube ads revenues increased $4,623 million from 2019 to 2020. Growth was primarily driven by our direct response advertising products, which benefited from improvements to ad formats and delivery and increased advertiser spending. Brand advertising products also contributed to growth despite revenues being adversely impacted by a decline in advertiser spending primarily in the first half of the year driven by the impact of COVID-19.

Google Network Members' properties

Google Network Members' properties revenues increased $1,543 million from 2019 to 2020. The growth was primarily driven by strength in AdMob and Google Ad Manager.

Use of Monetization Metrics

Paid clicks for our Google Search & other properties represent engagement by users and include clicks on advertisements by end-users on Google search properties and other owned and operated properties including Gmail, Google Maps, and Google Play. Historically, we included certain viewed YouTube engagement ads and the related revenues in our paid clicks and cost-per-click monetization metrics. Over time, advertising on YouTube has expanded to multiple advertising formats and the type of viewed engagement ads historically included in paid clicks and cost-per-click metrics have increasingly covered a smaller portion of YouTube advertising revenues. As a result, we removed these ads and the related revenues from the paid clicks and cost-per-click metrics for the current and historical periods presented. The revised metrics provide a better understanding of monetization trends on the properties included within Google Search & other, as they now more closely correlate with the related changes in revenues.

Impressions for our Google Network Members' properties include impressions displayed to users served on Google Network Members' properties participating primarily in AdMob, AdSense and Google Ad Manager.

Cost-per-click is defined as click-driven revenues divided by our total number of paid clicks and represents the average amount we charge advertisers for each engagement by users.

Cost-per-impression is defined as impression-based and click-based revenues divided by our total number of impressions and represents the average amount we charge advertisers for each impression displayed to users.

As our business evolves, we periodically review, refine and update our methodologies for monitoring, gathering, and counting the number of paid clicks on our Google Search & other properties and the number of impressions on Google Network Members' properties and for identifying the revenues generated by click activity on our Google Search & other properties and the revenues generated by impression activity on Google Network Members' properties.

Paid clicks and cost-per-click

The following table presents changes in our paid clicks and cost-per-click (expressed as a percentage):

	Year Ended December 31,	
	2019	2020
Paid clicks change	23 %	19 %
Cost-per-click change	(6)%	(10)%

Paid clicks increased from 2019 to 2020 primarily due to an increase in clicks due to interrelated factors, resulting from ongoing growth in user adoption and usage, primarily on mobile devices; continued growth in advertiser activity; and improvements we have made in ad formats and delivery. Growth was also driven by an increase in clicks relating to ads on Google Play. The positive effect on our revenues from an increase in paid clicks was partially offset by a decrease in the cost-per-click paid by our advertisers. The decrease in cost-per-click was primarily driven by reduced advertiser spending in response to COVID-19 primarily during the first half of the year. The decrease in cost-per-click was also affected by changes in device mix, geographic mix, ongoing product changes, product mix, property mix, and fluctuations of the U.S. dollar compared to certain foreign currencies.

Paid clicks increased from 2018 to 2019 primarily due to an increase in clicks due to interrelated factors, including an increase in search queries resulting from ongoing growth in user adoption and usage, primarily on mobile devices; continued growth in advertiser activity; and improvements we have made in ad formats and delivery. Growth was also driven by an increase in clicks relating to ads on Google Play. The positive effect on our revenues from an increase in paid clicks was partially offset by a decrease in the cost-per-click paid by our advertisers. The decrease in cost-per-click was driven by changes in device mix, geographic mix, ongoing product changes, product mix, property mix, and fluctuations of the U.S. dollar compared to certain foreign currencies.

Impressions and cost-per-impression

The following table presents changes in our impressions and cost-per-impression (expressed as a percentage):

	Year Ended December 31,
	2020
Impressions change	15 %
Cost-per-impression change	(8)%

Impressions increased from 2019 to 2020 primarily due to growth in Google Ad Manager. The positive effect on our revenues from an increase in impressions was partially offset by a decrease in the cost-per-impression paid by our advertisers which was driven by a reduction in advertiser spending in response to COVID-19, primarily during the first half of the year, as well as the effect of a combination of factors including ongoing product and policy changes and improvements we have made in ad formats and delivery, changes in device mix, geographic mix, product mix, property mix, and fluctuations of the U.S. dollar compared to certain foreign currencies.

Google other revenues

Google other revenues consist primarily of revenues from:

- Google Play, which includes revenues from sales of apps and in-app purchases (which we recognize net of payout to developers) and digital content sold in the Google Play store;
- hardware, including Google Nest home products, Pixelbooks, Pixel phones and other devices;
- YouTube non-advertising, including YouTube Premium and YouTube TV subscriptions and other services; and
- other products and services.

Google other revenues increased $4,697 million from 2019 to 2020. The growth was primarily driven by Google Play and YouTube non-advertising. Growth for Google Play was primarily driven by sales of apps and in-app purchases, which benefited from elevated user engagement partially due to the impact of COVID-19. Growth for YouTube non-advertising was primarily driven by an increase in paid subscribers.

Over time, our growth rate for Google other revenues may be affected by the seasonality associated with new product and service launches as well as market dynamics.

Google Cloud

Our Google Cloud revenues increased $4,141 million from 2019 to 2020. The growth was primarily driven by GCP followed by our Google Workspace offerings. Our infrastructure and our data and analytics platform products were the largest drivers of growth in GCP.

Over time, our growth rate for Google Cloud revenues may be affected by customer usage, market dynamics, as well as new product and service launches.

Revenues by Geography

The following table presents our revenues by geography as a percentage of revenues, determined based on the addresses of our customers:

	Year Ended December 31,	
	2019	2020
United States	46 %	47 %
EMEA	31 %	30 %
APAC	17 %	18 %
Other Americas	6 %	5 %

For further details on revenues by geography, see Note 2 of the Notes to Consolidated Financial Statements included in Part II, Item 8 of this Annual Report on Form 10-K.

Use of Constant Currency Revenues and Constant Currency Revenue Percentage Change

The effect of currency exchange rates on our business is an important factor in understanding period to period comparisons. Our international revenues are favorably affected as the U.S. dollar weakens relative to other foreign currencies, and unfavorably affected as the U.S. dollar strengthens relative to other foreign currencies. Our revenues are also favorably affected by net hedging gains and unfavorably affected by net hedging losses.

We use non-GAAP constant currency revenues and non-GAAP percentage change in constant currency revenues for financial and operational decision-making and as a means to evaluate period-to-period comparisons. We believe the presentation of results on a constant currency basis in addition to U.S. Generally Accepted Accounting Principles ("GAAP") results helps improve the ability to understand our performance because they exclude the effects of foreign currency volatility that are not indicative of our core operating results.

Constant currency information compares results between periods as if exchange rates had remained constant period over period. We define constant currency revenues as total revenues excluding the effect of foreign exchange rate movements and hedging activities, and use it to determine the constant currency revenue percentage change on a year-on-year basis. Constant currency revenues are calculated by translating current period revenues using prior period exchange rates, as well as excluding any hedging effects realized in the current period.

Constant currency revenue percentage change is calculated by determining the change in period revenues over prior period revenues where current period foreign currency revenues are translated using prior period exchange rates and hedging effects are excluded from revenues of both periods.

These results should be considered in addition to, not as a substitute for, results reported in accordance with GAAP. Results on a constant currency basis, as we present them, may not be comparable to similarly titled measures used by other companies and are not a measure of performance presented in accordance with GAAP.

The following table presents the foreign exchange effect on our international revenues and total revenues (in millions, except percentages):

	Year Ended December 31,	
	2019	2020
EMEA revenues	$ 50,645	$ 55,370
Exclude foreign exchange effect on current period revenues using prior year rates	2,397	(111)
EMEA constant currency revenues	$ 53,042	$ 55,259
Prior period EMEA revenues	$ 44,739	$ 50,645
EMEA revenue percentage change	13 %	9 %
EMEA constant currency revenue percentage change	19 %	9 %
APAC revenues	$ 26,928	$ 32,550
Exclude foreign exchange effect on current period revenues using prior year rates	388	11
APAC constant currency revenues	$ 27,316	$ 32,561
Prior period APAC revenues	$ 21,341	$ 26,928
APAC revenue percentage change	26 %	21 %
APAC constant currency revenue percentage change	28 %	21 %
Other Americas revenues	$ 8,986	$ 9,417
Exclude foreign exchange effect on current period revenues using prior year rates	541	964
Other Americas constant currency revenues	$ 9,527	$ 10,381
Prior period Other Americas revenues	$ 7,608	$ 8,986
Other Americas revenue percentage change	18 %	5 %
Other Americas constant currency revenue percentage change	25 %	16 %
United States revenues	$ 74,843	$ 85,014
United States revenue percentage change	18 %	14 %
Hedging gains (losses)	455	176
Total revenues	$ 161,857	$ 182,527
Total constant currency revenues	$ 164,728	$ 183,215
Prior period revenues, excluding hedging effect[(1)]	$ 136,957	$ 161,402
Total revenue percentage change	18 %	13 %
Total constant currency revenue percentage change	20 %	14 %

(1) Total revenues and hedging gains (losses) for the year ended December 31, 2018 were $136,819 million and $(138) million, respectively.

EMEA revenue percentage change from 2019 to 2020 was not significantly affected by foreign currency exchange rates, primarily due to the U.S. dollar weakening relative to the Euro offset by the U.S. dollar strengthening relative to the Turkish lira and Russian ruble.

APAC revenue percentage change from 2019 to 2020 was not significantly affected by foreign currency exchange rates, primarily due to the U.S. dollar strengthening relative to the Indian rupee, partially offset by the U.S. dollar weakening relative to the Japanese yen.

Other Americas revenue percentage change from 2019 to 2020 was unfavorably affected by changes in foreign currency exchange rates, primarily due to the U.S. dollar strengthening relative to the Brazilian real and Argentine peso.

Costs and Operating Expenses

Cost of Revenues

Cost of revenues includes TAC which are paid to our distribution partners who make available our search access points and services, and amounts paid to Google Network Members primarily for ads displayed on their properties. Our distribution partners include browser providers, mobile carriers, original equipment manufacturers, and software developers.

The cost of revenues as a percentage of revenues generated from ads placed on Google Network Members' properties are significantly higher than the cost of revenues as a percentage of revenues generated from ads placed on Google properties (which includes Google Search & other and YouTube ads), because most of the advertiser revenues from ads served on Google Network Members' properties are paid as TAC to our Google Network Members.

Additionally, other cost of revenues (which is the cost of revenues excluding TAC) includes the following:

- Content acquisition costs primarily related to payments to content providers from whom we license video and other content for distribution on YouTube advertising and subscription services and Google Play (we pay fees to these content providers based on revenues generated or a flat fee);
- Expenses associated with our data centers (including bandwidth, compensation expenses including stock-based compensation ("SBC"), depreciation, energy, and other equipment costs) as well as other operations costs (such as content review and customer support costs). These costs are generally less variable in nature and may not correlate with related changes in revenues; and
- Inventory related costs for hardware we sell.

The following tables present our cost of revenues, including TAC (in millions, except percentages):

	Year Ended December 31,	
	2019	2020
TAC	$ 30,089	$ 32,778
Other cost of revenues	41,807	51,954
Total cost of revenues	$ 71,896	$ 84,732
Total cost of revenues as a percentage of revenues	44.4 %	46.4 %

Cost of revenues increased $12,836 million from 2019 to 2020. The increase was due to increases in other cost of revenues and TAC of $10,147 million and $2,689 million, respectively.

The increase in other cost of revenues from 2019 to 2020 was due to an increase in data center and other operations costs and an increase in content acquisition costs primarily for YouTube. This increase was partially offset by a decline in hardware costs.

The increase in TAC from 2019 to 2020 was due to increases in TAC paid to distribution partners and to Google Network Members, driven by growth in revenues subject to TAC. The TAC rate was 22.3% in both 2019 and 2020. The TAC rate on Google properties revenues and the TAC rate on Google Network revenues were both substantially consistent from 2019 to 2020.

Over time, cost of revenues as a percentage of total revenues may be affected by a number of factors, including the following:

- The amount of TAC paid to distribution partners, which is affected by changes in device mix, geographic mix, partner mix, partner agreement terms such as revenue share arrangements, and the percentage of queries channeled through paid access points;
- The amount of TAC paid to Google Network Members, which is affected by a combination of factors such as geographic mix, product mix, and revenue share terms;
- Relative revenue growth rates of Google properties and Google Network Members' properties;
- Certain costs that are less variable in nature and may not correlate with the related revenues;
- Costs associated with our data centers and other operations to support ads, Google Cloud, Search, YouTube and other products;
- Content acquisition costs, which are primarily affected by the relative growth rates in our YouTube advertising and subscription revenues;
- Costs related to hardware sales; and
- Increased proportion of non-advertising revenues, which generally have higher costs of revenues, relative to our advertising revenues.

Research and Development

The following table presents our R&D expenses (in millions, except percentages):

	Year Ended December 31,	
	2019	2020
Research and development expenses	$ 26,018	$ 27,573
Research and development expenses as a percentage of revenues	16.1 %	15.1 %

R&D expenses consist primarily of:

- Compensation expenses (including SBC) for engineering and technical employees responsible for R&D of our existing and new products and services;
- Depreciation expenses;
- Equipment-related expenses; and
- Professional services fees primarily related to consulting and outsourcing services.

R&D expenses increased $1,555 million from 2019 to 2020. The increase was primarily due to an increase in compensation expenses of $1,619 million, largely resulting from a 11% increase in headcount and partially offset by higher compensation charges in certain Other Bets in 2019. Additionally, the increase in R&D expenses was partially offset by a decrease in travel and entertainment expenses of $383 million.

Over time, R&D expenses as a percentage of revenues may fluctuate due to certain expenses that are generally less variable in nature and may not correlate to the changes in revenues. In addition, R&D expenses may be affected by a number of factors including continued investment in ads, Android, Chrome, Google Cloud, Google Play, hardware, machine learning, Other Bets, Search and YouTube.

Sales and Marketing

The following table presents our sales and marketing expenses (in millions, except percentages):

	Year Ended December 31,	
	2019	2020
Sales and marketing expenses	$ 18,464	$ 17,946
Sales and marketing expenses as a percentage of revenues	11.4 %	9.8 %

Sales and marketing expenses consist primarily of:

- Advertising and promotional expenditures related to our products and services; and
- Compensation expenses (including SBC) for employees engaged in sales and marketing, sales support, and certain customer service functions.

Sales and marketing expenses decreased $518 million from 2019 to 2020. The decrease was primarily due to a decrease in advertising and promotional expenses of $1,395 million, as we reduced spending and paused or rescheduled campaigns and changed some events to digital-only formats as a result of COVID-19, and a decrease in travel and entertainment expenses of $371 million. The decrease was partially offset by an increase in compensation expenses of $1,347 million, largely resulting from an 8% increase in headcount.

Over time, sales and marketing expenses as a percentage of revenues may fluctuate due to certain expenses that are generally less variable in nature and may not correlate to the changes in revenues. In addition, sales and marketing expenses may be affected by a number of factors including the seasonality associated with new product and service launches and strategic decisions regarding the timing and extent of our spending.

General and Administrative

The following table presents our general and administrative expenses (in millions, except percentages):

	Year Ended December 31,	
	2019	2020
General and administrative expenses	$ 9,551	$ 11,052
General and administrative expenses as a percentage of revenues	5.9 %	6.1 %

General and administrative expenses consist primarily of:

- Compensation expenses (including SBC) for employees in our finance, human resources, information technology, and legal organizations;
- Depreciation;

- Equipment-related expenses;
- Legal-related expenses; and
- Professional services fees primarily related to audit, information technology consulting, outside legal, and outsourcing services.

General and administrative expenses increased $1,501 million from 2019 to 2020. The increase was primarily due to an increase in compensation expenses of $887 million, largely resulting from a 16% increase in headcount. In addition, there was an increase of $440 million related to allowance for credit losses for accounts receivable. The increase was partially offset by a $554 million charge recognized in 2019 relating to a legal settlement.

Over time, general and administrative expenses as a percentage of revenues may fluctuate due to certain expenses that are generally less variable in nature and may not correlate to the changes in revenues, the effect of discrete items such as legal settlements, or allowances for credit losses for accounts receivable.

European Commission Fines

In March 2019, the EC announced its decision that certain contractual provisions in agreements that Google had with AdSense for Search partners infringed European competition law. The EC decision imposed a €1.5 billion ($1.7 billion as of March 20, 2019) fine, which was accrued in the first quarter of 2019.

Please refer to Note 10 of the Notes to Consolidated Financial Statements included in Part II, Item 8 of this Annual Report on Form 10-K for further information.

Segment Profitability

The following table presents our segment operating income (loss) (in millions). For comparative purposes, amounts in prior periods have been recast.

	Year Ended December 31,		
	2018	2019	2020
Operating income (loss):			
Google Services	$ 43,137	$ 48,999	$ 54,606
Google Cloud	(4,348)	(4,645)	(5,607)
Other Bets	(3,358)	(4,824)	(4,476)
Corporate costs, unallocated[(1)]	(7,907)	(5,299)	(3,299)
Total income from operations	$ 27,524	$ 34,231	$ 41,224

(1) Corporate costs, unallocated includes a fine of $5.1 billion for the year ended December 31, 2018 and a fine and legal settlement totaling $2.3 billion for the year ended December 31, 2019.

Google Services

Google services operating income increased $5,607 million from 2019 to 2020. The increase was primarily driven by an increase in revenues partially offset by increases in content acquisition costs primarily for YouTube, data center and other operations costs, and TAC. Additionally, there was an increase in operating expenses primarily driven by an increase in compensation expenses (including SBC) largely due to increases in headcount. Operating income benefited from a decline in hardware costs.

Google services operating income increased $5,862 million from 2018 to 2019. The increase was primarily driven by an increase in revenues partially offset by increases in TAC, data center and other operations costs, and content acquisition costs primarily for YouTube. Additionally, there was an increase in operating expenses primarily driven by an increase in compensation expenses (including SBC) largely due to an increase in headcount.

Google Cloud

Google Cloud operating loss increased $962 million from 2019 to 2020 and increased $297 million from 2018 to 2019. The increase in operating loss in both periods was driven by an increase in total expenses of $5,103 million from 2019 to 2020 and $3,377 million from 2018 to 2019. Operating expenses increased primarily due to compensation expenses (including SBC), largely driven by an increase in headcount. Additionally, data center and other operating costs increased in both periods.

Other Bets

Other Bets operating loss decreased $348 million from 2019 to 2020 and increased $1,466 million from 2018 to 2019. The fluctuations were primarily driven by compensation expenses (including SBC).

Other Income (Expense), Net

The following table presents other income (expense), net, (in millions):

	Year Ended December 31,	
	2019	2020
Other income (expense), net	$ 5,394	$ 6,858

Other income (expense), net, increased $1,464 million from 2019 to 2020. The change was primarily driven by an increase in net gains on equity and debt securities of $3,519 million, partially offset by a $902 million loss resulting from our equity derivatives, which hedged the changes in fair value of certain marketable equity securities, and a decrease in interest income of $562 million.

Over time, other income (expense), net, may be affected by market dynamics and other factors. Equity values generally change daily for marketable equity securities and upon the occurrence of observable price changes or upon impairment of non-marketable equity securities. In addition, volatility in the global economic climate and financial markets, including the effects of COVID-19, could result in a significant change in the value of our investments. Fluctuations in the value of these investments has, and we expect will continue to, contribute to volatility of OI&E in future periods. For additional information about our investments, see Note 1 and Note 3 of the Notes to Consolidated Financial Statements included in Part II, Item 8 of this Annual Report on Form 10-K.

Provision for Income Taxes

The following table presents our provision for income taxes (in millions, except for effective tax rate):

	Year Ended December 31,	
	2019	2020
Provision for income taxes	$ 5,282	$ 7,813
Effective tax rate	13.3 %	16.2 %

Our provision for income taxes and our effective tax rate increased from 2019 to 2020. The increase in the provision for income taxes and our effective tax rate is primarily due to benefits related to the resolution of multi-year audits in 2019 that did not recur in 2020, higher earnings in countries that have higher statutory rates resulting from the change in our corporate legal entity structure implemented as of December 31, 2019, and an increase in valuation allowance for net deferred tax assets that are not likely to be realized relating to certain of our Other Bets, partially offset by an increase in the U.S. federal Foreign-Derived Intangible Income tax deduction benefits.

See Note 14 of the Notes to Consolidated Financial Statements included in Part II, Item 8 of this Annual Report on Form 10-K for further information.

We expect our future effective tax rate to be affected by the geographic mix of earnings in countries with different statutory rates. Additionally, our future effective tax rate may be affected by changes in the valuation of our deferred tax assets or liabilities, or changes in tax laws, regulations, or accounting principles, as well as certain discrete items.

Quarterly Results of Operations

The following tables presenting our quarterly results of operations should be read in conjunction with the consolidated financial statements and related notes included in Part II, Item 8 of this Annual Report on Form 10-K. We have prepared the unaudited information on the same basis as our audited consolidated financial statements. Our operating results for any quarter are not necessarily indicative of results for any future quarters or for a full year.

The following table presents our unaudited quarterly results of operations for the eight quarters ended December 31, 2020. This table includes all adjustments, consisting only of normal recurring adjustments, that we consider necessary for a fair presentation of our consolidated financial position and operating results for the quarters presented. Seasonal fluctuations in internet usage and advertiser expenditures, underlying business trends such as traditional retail seasonality and macroeconomic conditions have affected, and are likely to continue to affect, our business (including developments and volatility arising from COVID-19). Commercial queries typically increase significantly in the fourth quarter of each year. These seasonal trends have caused, and will likely continue to cause, fluctuations in our quarterly results, including fluctuations in sequential revenue growth rates.

	Quarter Ended							
	Mar 31, 2019	Jun 30, 2019	Sept 30, 2019	Dec 31, 2019	Mar 31, 2020	Jun 30, 2020	Sept 30, 2020	Dec 31, 2020
	(In millions, except per share amounts) (unaudited)							
Consolidated Statements of Income Data:								
Revenues	$36,339	$38,944	$40,499	$46,075	$41,159	$38,297	$46,173	56,898
Costs and expenses:								
Cost of revenues	16,012	17,296	17,568	21,020	18,982	18,553	21,117	26,080
Research and development	6,029	6,213	6,554	7,222	6,820	6,875	6,856	7,022
Sales and marketing	3,905	4,212	4,609	5,738	4,500	3,901	4,231	5,314
General and administrative	2,088	2,043	2,591	2,829	2,880	2,585	2,756	2,831
European Commission fines	1,697	0	0	0	0	0	0	0
Total costs and expenses	29,731	29,764	31,322	36,809	33,182	31,914	34,960	41,247
Income from operations	6,608	9,180	9,177	9,266	7,977	6,383	11,213	15,651
Other income (expense), net	1,538	2,967	(549)	1,438	(220)	1,894	2,146	3,038
Income before income taxes	8,146	12,147	8,628	10,704	7,757	8,277	13,359	18,689
Provision for income taxes	1,489	2,200	1,560	33	921	1,318	2,112	3,462
Net income	$ 6,657	$ 9,947	$ 7,068	$10,671	$ 6,836	$ 6,959	$11,247	15,227
Basic net income per share of Class A and B common stock and Class C capital stock	$ 9.58	$ 14.33	$ 10.20	$ 15.49	$ 9.96	$ 10.21	$ 16.55	$ 22.54
Diluted net income per share of Class A and B common stock and Class C capital stock	$ 9.50	$ 14.21	$ 10.12	$ 15.35	$ 9.87	$ 10.13	$ 16.40	$ 22.30

Financial Condition

Cash, Cash Equivalents, and Marketable Securities

As of December 31, 2020, we had $136.7 billion in cash, cash equivalents, and short-term marketable securities. Cash equivalents and marketable securities are comprised of time deposits, money market funds, highly liquid government bonds, corporate debt securities, mortgage-backed and asset-backed securities and marketable equity securities.

Sources, Uses of Cash and Related Trends

Our principal sources of liquidity are our cash, cash equivalents, and marketable securities, as well as the cash flow that we generate from our operations. The primary use of capital continues to be to invest for the long term growth of the business. We regularly evaluate our cash and capital structure, including the size, pace and form of capital return to stockholders.

The following table presents our cash flows (in millions):

	Year Ended December 31,	
	2019	2020
Net cash provided by operating activities	$ 54,520	$ 65,124
Net cash used in investing activities	$ (29,491)	$ (32,773)
Net cash used in financing activities	$ (23,209)	$ (24,408)

Cash Provided by Operating Activities

Our largest source of cash provided by our operations are advertising revenues generated by Google Search & other properties, Google Network Members' properties and YouTube ads. Additionally, we generate cash through sales of apps, in-app purchases, digital content products, and hardware; and licensing and service fees including fees received for Google Cloud offerings and subscription-based products.

Our primary uses of cash from our operating activities include compensation and related costs, payments to our distribution partners and Google Network Members, and payments for content acquisition costs. In addition, uses of cash from operating activities include hardware inventory costs, income taxes, and other general corporate expenditures.

Net cash provided by operating activities increased from 2019 to 2020 primarily due to the net effect of increases in cash received from revenues and cash paid for cost of revenues and operating expenses, and changes in operating assets and liabilities.

Cash Used in Investing Activities

Cash provided by investing activities consists primarily of maturities and sales of our investments in marketable and non-marketable securities. Cash used in investing activities consists primarily of purchases of marketable and non-marketable securities, purchases of property and equipment, and payments for acquisitions.

Net cash used in investing activities increased from 2019 to 2020 primarily due to a net increase in purchases of securities, partially offset by decreases in payments for acquisitions and purchases of property and equipment. The net decrease in purchases of property and equipment was driven by decreases in purchases of land and buildings for offices as well as data center construction, partially offset by increases in purchases of servers.

Cash Used in Financing Activities

Cash provided by financing activities consists primarily of proceeds from issuance of debt and proceeds from the sale of interest in consolidated entities. Cash used in financing activities consists primarily of repurchases of capital stock, net payments related to stock-based award activities, and repayments of debt.

Net cash used in financing activities increased from 2019 to 2020 primarily due to an increase in cash payments for repurchases of capital stock, partially offset by increases in net proceeds from issuance of debt and proceeds from the sale of interest in consolidated entities.

Liquidity and Material Cash Requirements

We expect existing cash, cash equivalents, short-term marketable securities, cash flows from operations and financing activities to continue to be sufficient to fund our operating activities and cash commitments for investing and financing activities for at least the next 12 months and thereafter for the foreseeable future.

As of December 31, 2020, we had long-term taxes payable of $6.5 billion related to a one-time transition tax payable incurred as a result of the U.S. Tax Cuts and Jobs Act ("Tax Act"). As permitted by the Tax Act, we will pay the transition tax in annual interest-free installments through 2025.

In 2017, 2018 and 2019, the EC announced decisions that certain actions taken by Google infringed European competition law and imposed fines of €2.4 billion ($2.7 billion as of June 27, 2017), €4.3 billion ($5.1 billion as of June 30, 2018), and €1.5 billion ($1.7 billion as of March 20, 2019), respectively. While each EC decision is under appeal, we included the fines in accrued expenses and other current liabilities on our Consolidated Balance Sheets as we provided bank guarantees (in lieu of a cash payment) for the fines.

In January 2021, we closed the acquisition of Fitbit, a leading wearables brand, for $2.1 billion.

We have a short-term debt financing program of up to $5.0 billion through the issuance of commercial paper. Net proceeds from this program are used for general corporate purposes. As of December 31, 2020, we had no commercial paper outstanding. As of December 31, 2020, we have $4.0 billion of revolving credit facilities expiring

in July 2023 with no amounts outstanding. The interest rate for the credit facilities is determined based on a formula using certain market rates.

In August 2020, we issued $10.0 billion of fixed-rate senior unsecured notes in six tranches: $1.0 billion due in 2025, $1.0 billion due in 2027, $2.25 billion due in 2030, $1.25 billion due in 2040, $2.5 billion due in 2050 and $2.0 billion due in 2060. The 2020 Notes had a weighted average duration of 21.5 years and weighted average coupon rate of 1.57%. Of the total issuance, $5.75 billion was designated as Sustainability Bonds, the net proceeds of which are used to fund environmentally and socially responsible projects in the following eight areas: energy efficiency, clean energy, green buildings, clean transportation, circular economy and design, affordable housing, commitment to racial equity, and support for small businesses and COVID-19 crisis response. The remaining net proceeds are used for general corporate purposes. As of December 31, 2020, we have senior unsecured notes outstanding with a total carrying value of $13.8 billion. Refer to Note 6 of the Notes to Consolidated Financial Statements included in Part II, Item 8 of this Annual Report on Form 10-K for further information on the debts.

In accordance with the authorizations of the Board of Directors of Alphabet, in 2020 we repurchased and subsequently retired 21.5 million shares of Alphabet Class C capital stock for an aggregate amount of $31.1 billion. As of December 31, 2020, $17.6 billion remains authorized and available for repurchase. The repurchases are being executed from time to time, subject to general business and market conditions and other investment opportunities, through open market purchases or privately negotiated transactions, including through Rule 10b5-1 plans. The repurchase program does not have an expiration date. Refer to Note 11 of the Notes to Consolidated Financial Statements included in Part II, Item 8 of this Annual Report on Form 10-K.

Capital Expenditures and Leases

We make investments in land and buildings for data centers and offices and information technology assets through purchases of property and equipment and lease arrangements to provide capacity for the growth of our services and products.

Our capital investments in property and equipment consist primarily of the following major categories:

- Technical infrastructure, which consists of our investments in servers and network equipment for compute, storage and networking requirements for ongoing business activities, including machine learning, (collectively referred to as our information technology assets) and data center land and building construction; and
- Office facilities, ground up development projects and related building improvements.

Due to the integrated nature of Alphabet, our technical infrastructure and office facilities are managed centrally at a consolidated level. The associated costs, including depreciation and impairment, are allocated to operating segments as a service cost generally based on usage or headcount. Our technical infrastructure investments are designed to support all of Alphabet, including primarily ads, Google Cloud, Search, and YouTube.

Construction in progress consists primarily of technical infrastructure and office facilities which have not yet been placed in service for our intended use. The time frame from date of purchase to placement in service of these assets may extend to multiple periods. For example, our data center construction projects are generally multi-year projects with multiple phases, where we acquire qualified land and buildings, construct buildings, and secure and install information technology assets.

During the years ended December 31, 2019 and 2020, we spent $23.5 billion and $22.3 billion on capital expenditures and recognized total operating lease assets of $4.4 billion and $2.8 billion, respectively. As of December 31, 2020, the amount of total future lease payments under operating leases, which had a weighted average remaining lease term of 9 years, was $15.1 billion. As of December 31, 2020, we have entered into leases that have not yet commenced with future lease payments of $8.0 billion, excluding purchase options, that are not yet recorded on our Consolidated Balance Sheets. These leases will commence between 2021 and 2026 with non-cancelable lease terms of 1 to 25 years.

Depreciation of our property and equipment commences when the deployment of such assets are completed and are ready for our intended use. Land is not depreciated. For the years ended December 31, 2019 and 2020, our depreciation and impairment expenses on property and equipment were $10.9 billion and $12.9 billion, respectively.

For the years ended December 31, 2019 and 2020, our operating lease expenses (including variable lease costs), were $2.4 billion and $2.9 billion, respectively. Finance leases were not material for the years ended December 31, 2019 and 2020. Please refer to Note 4 of the Notes to Consolidated Financial Statements included in Part II, Item 8 of this Annual Report on Form 10-K for further information on the leases.

Contractual Obligations as of December 31, 2020

The following summarizes our contractual obligations as of December 31, 2020 (in millions):

	Payments Due By Period				
	Total	Less than 1 year	1-3 years	3-5 years	More than 5 years
Operating lease obligations[1]	$ 15,091	$ 2,198	$ 4,165	$ 3,127	$ 5,601
Obligations for leases that have not yet commenced[1]	8,049	370	1,198	1,469	5,012
Purchase obligations[2]	10,656	7,368	1,968	354	966
Long-term debt obligations[3]	19,840	1,357	634	2,587	15,262
Tax payable[4]	7,359	834	1,916	4,609	0
Other long-term liabilities reflected on our balance sheet[5]	1,421	532	616	185	88
Total contractual obligations	$ 62,416	$ 12,659	$ 10,497	$ 12,331	$ 26,929

(1) For further information, refer to Note 4 of the Notes to Consolidated Financial Statements included in Part II, Item 8 of this Annual Report on Form 10-K.

(2) Represents non-cancelable contractual obligations primarily related to data center operations and build-outs; information technology assets; purchases of inventory; and digital media content licensing arrangements. The amounts included above represent the non-cancelable portion of agreements or the minimum cancellation fee. For those agreements with variable terms, we do not estimate the non-cancelable obligation beyond any minimum quantities and/or pricing as of December 31, 2020. Excluded from the table above are open orders for purchases that support normal operations, which are generally cancelable.

(3) Represents our principal and interest payments. For further information on long-term debt, refer to Note 6 of the Notes to Consolidated Financial Statements included in Part II, Item 8 of this Annual Report on Form 10-K.

(4) Represents one-time transition tax payable incurred as a result of the Tax Act. For further information, refer to Note 14 of the Notes to Consolidated Financial Statements included in Part II, Item 8 of this Annual Report on Form 10-K. Excluded from the table above are long-term taxes payable of $2.3 billion as of December 31, 2020 primarily related to uncertain tax positions, for which we are unable to make a reasonably reliable estimate of the timing of payments in individual years beyond 12 months due to uncertainties in the timing and outcomes of tax audits.

(5) Represents cash obligations recorded on our Consolidated Balance Sheets, including the short-term portion of these long-term liabilities, primarily for certain commercial agreements. These amounts do not include the EC fines which are classified as current liabilities on our Consolidated Balance Sheets. For further information regarding the EC fines, refer to Note 10 of the Notes to Consolidated Financial Statements included in Part II, Item 8 of this Annual Report on Form 10-K.

Off-Balance Sheet Arrangements

As of December 31, 2020, we did not have any off-balance sheet arrangements, as defined in Item 303(a)(4)(ii) of Regulation S-K, that have or are reasonably likely to have a current or future effect on our financial condition, changes in our financial condition, revenues, or expenses, results of operations, liquidity, capital expenditures, or capital resources that is material to investors. See Note 10 included in Part II, Item 8 of this annual report on Form 10-K for more information on our commitments and contingencies.

Critical Accounting Policies and Estimates

We prepare our consolidated financial statements in accordance with GAAP. In doing so, we have to make estimates and assumptions that affect our reported amounts of assets, liabilities, revenues, expenses, gains and losses, as well as related disclosure of contingent assets and liabilities. In some cases, we could reasonably have used different accounting policies and estimates. In some cases, changes in the accounting estimates are reasonably likely to occur from period to period. Accordingly, actual results could differ materially from our estimates. To the extent that there are material differences between these estimates and actual results, our financial condition or results of operations will be affected. We base our estimates on past experience and other assumptions that we believe are reasonable under the circumstances, and we evaluate these estimates on an ongoing basis. We refer to accounting estimates of this type as critical accounting policies and estimates, which we discuss further below. We have reviewed our critical accounting policies and estimates with the audit and compliance committee of our Board of Directors.

Please see Notes to Consolidated Financial Statements included in Part II, Item 8 of this Annual Report on Form 10-K for a summary of significant accounting policies and the effect on our financial statements.

Revenues

For the sale of third-party goods and services, we evaluate whether we are the principal, and report revenues on a gross basis, or an agent, and report revenues on a net basis. In this assessment, we consider if we obtain control of the specified goods or services before they are transferred to the customer, as well as other indicators such as the party primarily responsible for fulfillment, inventory risk, and discretion in establishing price.

Income Taxes

We are subject to income taxes in the U.S. and foreign jurisdictions. Significant judgment is required in evaluating our uncertain tax positions and determining our provision for income taxes.

Although we believe we have adequately reserved for our uncertain tax positions, no assurance can be given that the final tax outcome of these matters will not be different. We adjust these reserves in light of changing facts and circumstances, such as the closing of a tax audit or the refinement of an estimate. To the extent that the final tax outcome of these matters is different than the amounts recorded, such differences will affect the provision for income taxes and the effective tax rate in the period in which such determination is made.

The provision for income taxes includes the effect of reserve provisions and changes to reserves that are considered appropriate as well as the related net interest and penalties. In addition, we are subject to the continuous examination of our income tax returns by the Internal Revenue Services ("IRS") and other tax authorities which may assert assessments against us. We regularly assess the likelihood of adverse outcomes resulting from these examinations and assessments to determine the adequacy of our provision for income taxes.

Loss Contingencies

We are regularly subject to claims, suits, government investigations, and other proceedings involving competition, intellectual property, privacy, tax and related compliance, labor and employment, commercial disputes, content generated by our users, goods and services offered by advertisers or publishers using our platforms, personal injury consumer protection, and other matters. Certain of these matters include speculative claims for substantial or indeterminate amounts of damages. We record a liability when we believe that it is probable that a loss has been incurred and the amount can be reasonably estimated. If we determine that a loss is reasonably possible and the loss or range of loss can be estimated, we disclose the possible loss in the Notes to the Consolidated Financial Statements.

We evaluate, on a regular basis, developments in our legal matters that could affect the amount of liability that has been previously accrued, and the matters and related reasonably possible losses disclosed, and make adjustments and changes to our disclosures as appropriate. Significant judgment is required to determine both the likelihood of there being, and the estimated amount of, a loss related to such matters. Until the final resolution of such matters, there may be an exposure to loss in excess of the amount recorded, and such amounts could be material. Should any of our estimates and assumptions change or prove to have been incorrect, it could have a material effect on our business, consolidated financial position, results of operations, or cash flows.

Long-lived Assets

Long-lived assets, including property and equipment, long-term prepayments, and intangible assets, excluding goodwill, are reviewed for impairment whenever events or changes in circumstances indicate that the carrying amount of an asset may not be recoverable. The evaluation is performed at the lowest level of identifiable cash flows independent of other assets. An impairment loss would be recognized when estimated undiscounted future cash flows generated from the assets are less than their carrying amount. Measurement of an impairment loss would be based on the excess of the carrying amount of the asset group over its fair value.

Fair Value Measurements

We measure certain of our non-marketable equity and debt investments, certain other instruments including stock-based compensation awards settled in the stock of certain Other Bets, and certain assets and liabilities acquired in a business combination, at fair value on a nonrecurring basis. The determination of fair value involves the use of appropriate valuation methods and relevant inputs into valuation models. The fair value hierarchy prioritizes the inputs used to measure fair value whereby it gives the highest priority to quoted prices (unadjusted) in active markets for identical assets or liabilities and the lowest priority to unobservable inputs. We maximize the use of relevant observable inputs and minimize the use of unobservable inputs. Our use of unobservable inputs reflects the assumptions that market participants would use and may include our own data adjusted based on reasonably available information. We apply judgment in assessing the relevance of observable market data to determine the priority of inputs under the fair value hierarchy, particularly in situations where there is very little or no market activity.

In determining the fair values of our non-marketable equity and debt investments, as well as assets acquired (especially with respect to intangible assets) and liabilities assumed in business combinations, we make significant estimates and assumptions, some of which include the use of unobservable inputs.

Certain stock-based compensation awards may be settled in the stock of certain of our Other Bets or in cash. These awards are based on the equity values of the respective Other Bet, which requires use of unobservable inputs.

We also have compensation arrangements with payouts based on realized investment returns, i.e. performance fees. We recognize compensation expense based on the estimated payouts, which may result in expense recognized before investment returns are realized, and may require the use of unobservable inputs.

Non-marketable Equity Securities

Our non-marketable equity securities not accounted for under the equity method are carried either at fair value or under the measurement alternative. Under the measurement alternative, the carrying value is measured at cost, less any impairment, plus or minus changes resulting from observable price changes in orderly transactions for the identical or a similar investment of the same issuer. Determining whether an observed transaction is similar to a security within our portfolio requires judgment based on the rights and obligations of the securities. Recording upward and downward adjustments to the carrying value of our equity securities as a result of observable price changes requires quantitative assessments of the fair value of our securities using various valuation methodologies and involves the use of estimates.

Non-marketable equity securities are also subject to periodic impairment reviews. Our quarterly impairment analysis considers both qualitative and quantitative factors that may have a significant effect on the investment's fair value. Qualitative factors considered include the companies' financial and liquidity position, access to capital resources and the time since the last adjustment to fair value, among others. When indicators of impairment exist, we prepare quantitative assessments of the fair value of our equity investments using both the market and income approaches which require judgment and the use of estimates, including discount rates, investee revenues and costs, and comparable market data of private and public companies, among others. When our assessment indicates that an impairment exists, we write down the investment to its fair value.

Change in Accounting Estimate

In January 2021, we completed an assessment of the useful lives of our servers and network equipment and determined we should adjust the estimated useful life of our servers from three years to four years and the estimated useful life of certain network equipment from three years to five years. This change in accounting estimate will be effective beginning fiscal year 2021. For assets that are in-service as of December 31, 2020, we expect operating results to be favorably impacted by approximately $2.1 billion for the full fiscal year 2021. The effect of the change may be different due to our capital investments during the fiscal year 2021.

ITEM 7A. QUANTITATIVE AND QUALITATIVE DISCLOSURES ABOUT MARKET RISK

We are exposed to financial market risks, including changes in foreign currency exchange rates, interest rates, and equity investment risks.

Foreign Currency Exchange Risk

We transact business globally in multiple currencies. Our international revenues, as well as costs and expenses denominated in foreign currencies, expose us to the risk of fluctuations in foreign currency exchange rates against the U.S. dollar. Principal currencies hedged included the Australian dollar, British pound, Canadian dollar, Euro and Japanese yen. For the purpose of analyzing foreign currency exchange risk, we considered the historical trends in foreign currency exchange rates and determined that it was reasonably possible that adverse changes in exchange rates of 10% could be experienced in the near term.

We use foreign exchange forward contracts to offset the foreign exchange risk on our assets and liabilities denominated in currencies other than the functional currency of the subsidiary. These forward contracts reduce, but do not entirely eliminate, the effect of foreign currency exchange rate movements on our assets and liabilities. The foreign currency gains and losses on the assets and liabilities are recorded in other income (expense), net, which are offset by the gains and losses on the forward contracts.

If an adverse 10% foreign currency exchange rate change was applied to total monetary assets, liabilities, and commitments denominated in currencies other than the functional currencies at the balance sheet date, it would have resulted in an adverse effect on income before income taxes of approximately $8 million and $497 million as of

December 31, 2019 and 2020, respectively, after consideration of the effect of foreign exchange contracts in place for the years ended December 31, 2019 and 2020.

We use foreign currency forwards and option contracts, including collars (an option strategy comprised of a combination of purchased and written options) to protect our forecasted U.S. dollar-equivalent earnings from changes in foreign currency exchange rates. When the U.S. dollar strengthens, gains from foreign currency options and forwards reduce the foreign currency losses related to our earnings. When the U.S. dollar weakens, losses from foreign currency collars and forwards offset the foreign currency gains related to our earnings. These hedging contracts reduce, but do not entirely eliminate, the effect of foreign currency exchange rate movements. We designate these contracts as cash flow hedges for accounting purposes. We reflect the gains or losses of foreign currency spot rate changes as a component of AOCI and subsequently reclassify them into revenues to offset the hedged exposures as they occur.

If the U.S. dollar weakened by 10% as of December 31, 2019 and 2020, the amount recorded in AOCI related to our foreign exchange contracts before tax effect would have been approximately $1.1 billion and $912 million lower as of December 31, 2019 and 2020, respectively. The change in the value recorded in AOCI would be expected to offset a corresponding foreign currency change in forecasted hedged revenues when recognized.

We use foreign exchange forward contracts designated as net investment hedges to hedge the foreign currency risks related to our investment in foreign subsidiaries. These forward contracts serve to offset the foreign currency translation risk from our foreign operations.

If the U.S. dollar weakened by 10%, the amount recorded in cumulative translation adjustment ("CTA") within AOCI related to our net investment hedge would have been approximately $936 million and $1 billion lower as of December 31, 2019 and 2020, respectively. The change in value recorded in CTA would be expected to offset a corresponding foreign currency translation gain or loss from our investment in foreign subsidiaries.

Interest Rate Risk

Our Corporate Treasury investment strategy is to achieve a return that will allow us to preserve capital and maintain liquidity. We invest primarily in debt securities including those of the U.S. government and its agencies, corporate debt securities, mortgage-backed securities, money market and other funds, municipal securities, time deposits, asset backed securities, and debt instruments issued by foreign governments. By policy, we limit the amount of credit exposure to any one issuer. Our investments in both fixed rate and floating rate interest earning securities carry a degree of interest rate risk. Fixed rate securities may have their fair market value adversely affected due to a rise in interest rates, while floating rate securities may produce less income than predicted if interest rates fall. Unrealized gains or losses on our marketable debt securities are primarily due to interest rate fluctuations as compared to interest rates at the time of purchase. For certain fixed and variable rate debt securities, we have elected the fair value option for which changes in fair value are recorded in other income (expense), net. We measure securities for which we have not elected the fair value option at fair value with gains and losses recorded in AOCI until the securities are sold, less any expected credit losses.

We use value-at-risk ("VaR") analysis to determine the potential effect of fluctuations in interest rates on the value of our marketable debt security portfolio. The VaR is the expected loss in fair value, for a given confidence interval, for our investment portfolio due to adverse movements in interest rates. We use a variance/covariance VaR model with 95% confidence interval. The estimated one-day loss in fair value of our marketable debt securities as of December 31, 2019 and 2020 are shown below (in millions):

	As of December 31,		12-Month Average As of December 31,	
	2019	2020	2019	2020
Risk Category - Interest Rate	$ 104	$ 144	$ 90	$ 145

Actual future gains and losses associated with our marketable debt security portfolio may differ materially from the sensitivity analyses performed as of December 31, 2019 and 2020 due to the inherent limitations associated with predicting the timing and amount of changes in interest rates and our actual exposures and positions. VaR analysis is not intended to represent actual losses but is used as a risk estimation.

Equity Investment Risk

Our marketable and non-marketable equity securities are subject to a wide variety of market-related risks that could substantially reduce or increase the fair value of our holdings.

Our marketable equity securities are publicly traded stocks or funds and our non-marketable equity securities are investments in privately held companies, some of which are in the startup or development stages.

We record our marketable equity securities not accounted for under the equity method at fair value based on readily determinable market values, of which publicly traded stocks and mutual funds are subject to market price volatility, and represent $3.3 billion and $5.9 billion of our investments as of December 31, 2019 and 2020, respectively. A hypothetical adverse price change of 30% on our December 31, 2020 balance, which could be experienced in the near term, would decrease the fair value of our marketable equity securities by $1.8 billion. From time to time, we may enter into derivatives to hedge the market price risk on certain of our marketable equity securities.

Our non-marketable equity securities not accounted for under the equity method are adjusted to fair value for observable transactions for identical or similar investments of the same issuer or impairment (referred to as the measurement alternative). The fair value measured at the time of the observable transaction is not necessarily an indication of the current fair value as of the balance sheet date. These investments, especially those that are in the early stages, are inherently risky because the technologies or products these companies have under development are typically in the early phases and may never materialize and they may experience a decline in financial condition, which could result in a loss of a substantial part of our investment in these companies. The success of our investment in any private company is also typically dependent on the likelihood of our ability to realize appreciation in the value of our investments through liquidity events such as public offerings, acquisitions, private sales or other market events. As of December 31, 2019 and 2020, the carrying value of our non-marketable equity securities, which were accounted for under the measurement alternative, was $11.4 billion and $18.9 billion, respectively. Valuations of our equity investments in private companies are inherently more complex due to the lack of readily available market data. Volatility in the global economic climate and financial markets could result in a significant impairment charge relating to our non-marketable equity securities. Changes in valuation of non-marketable equity securities may not directly correlate with changes in valuation of marketable equity securities. Additionally, observable transactions at lower valuations could result in significant losses on our non-marketable equity securities. The effect of COVID-19 on our impairment assessment requires significant judgment due to the uncertainty around the duration and severity of the impact.

The carrying values of our equity method investments, which totaled approximately $1.3 billion and $1.4 billion as of December 31, 2019 and 2020, respectively, generally do not fluctuate based on market price changes, however these investments could be impaired if the carrying value exceeds the fair value and is not expected to recover.

For further information about our equity investments, please refer to Note 1 and Note 3 of the Notes to Consolidated Financial Statements included in Part II of this Annual Report on Form 10-K.

ITEM 8. FINANCIAL STATEMENTS AND SUPPLEMENTARY DATA

Alphabet Inc.

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The supplementary financial information required by this Item 8 is included in Item 7 under the caption "Quarterly Results of Operations."

REPORT OF ERNST & YOUNG LLP, INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

To the Stockholders and the Board of Directors of Alphabet Inc.

Opinion on the Financial Statements

We have audited the accompanying consolidated balance sheets of Alphabet Inc. (the Company) as of December 31, 2019 and 2020, the related consolidated statements of income, comprehensive income, stockholders' equity and cash flows for each of the three years in the period ended December 31, 2020, and the related notes and financial statement schedule listed in the Index at Item 15 (collectively referred to as the “consolidated financial statements”). In our opinion, the consolidated financial statements present fairly, in all material respects, the financial position of the Company at December 31, 2019 and 2020, and the results of its operations and its cash flows for each of the three years in the period ended December 31, 2020, in conformity with U.S. generally accepted accounting principles.

We also have audited, in accordance with the standards of the Public Company Accounting Oversight Board (United States) (PCAOB), the Company's internal control over financial reporting as of December 31, 2020, based on criteria established in Internal Control—Integrated Framework issued by the Committee of Sponsoring Organizations of the Treadway Commission (2013 framework) and our report dated February 2, 2021 expressed an unqualified opinion thereon.

Basis for Opinion

These financial statements are the responsibility of the Company's management. Our responsibility is to express an opinion on the Company’s financial statements based on our audits. We are a public accounting firm registered with the PCAOB and are required to be independent with respect to the Company in accordance with the U.S. federal securities laws and the applicable rules and regulations of the U.S. Securities and Exchange Commission and the PCAOB.

We conducted our audits in accordance with the standards of the PCAOB. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the financial statements are free of material misstatement, whether due to error or fraud. Our audits included performing procedures to assess the risks of material misstatement of the financial statements, whether due to error or fraud, and performing procedures that respond to those risks. Such procedures included examining, on a test basis, evidence regarding the amounts and disclosures in the financial statements. Our audits also included evaluating the accounting principles used and significant estimates made by management, as well as evaluating the overall presentation of the financial statements. We believe that our audits provide a reasonable basis for our opinion.

Critical Audit Matter

The critical audit matter communicated below is a matter arising from the current period audit of the financial statements that was communicated or required to be communicated to the audit committee and that: (1) relates to accounts or disclosures that are material to the financial statements and (2) involved our especially challenging, subjective, or complex judgments. The communication of the critical audit matter does not alter in any way our opinion on the consolidated financial statements, taken as a whole, and we are not, by communicating the critical audit matter below, providing a separate opinion on the critical audit matter or on the accounts or disclosures to which it relates.

Loss Contingencies

Description of the Matter	The Company is regularly subject to claims, suits, and government investigations involving competition, intellectual property, privacy, consumer protection, tax, labor and employment, commercial disputes, content generated by its users, goods and services offered by advertisers or publishers using their platforms, and other matters. As described in Note 10 to the consolidated financial statements “Commitments and Contingencies” such claims could result in adverse consequences. Significant judgment is required to determine both the likelihood, and the estimated amount, of a loss related to such matters. Auditing management’s accounting for and disclosure of loss contingencies from these matters involved challenging and subjective auditor judgment in assessing the Company’s evaluation of the probability of a loss, and the estimated amount or range of loss.
How We Addressed the Matter in Our Audit	We tested relevant controls over the identified risks associated with management’s accounting for and disclosure of these matters. This included controls over management’s assessment of the probability of incurrence of a loss and whether the loss or range of loss was reasonably estimable and the development of related disclosures. Our audit procedures included gaining an understanding of previous rulings issued by regulators and the status of ongoing lawsuits, reviewing letters addressing the matters from internal and external legal counsel, meeting with internal legal counsel to discuss the allegations, and obtaining a representation letter from management on these matters. We also evaluated the Company’s disclosures in relation to these matters.

/s/ Ernst & Young LLP

We have served as the Company's auditor since 1999.

San Jose, California
February 2, 2021

REPORT OF ERNST & YOUNG LLP, INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

To the Stockholders and the Board of Directors of Alphabet Inc.

Opinion on Internal Control over Financial Reporting

We have audited Alphabet Inc.'s internal control over financial reporting as of December 31, 2020, based on criteria established in Internal Control—Integrated Framework issued by the Committee of Sponsoring Organizations of the Treadway Commission (2013 framework) (the COSO criteria). In our opinion, Alphabet Inc. (the Company) maintained, in all material respects, effective internal control over financial reporting as of December 31, 2020, based on the COSO criteria.

We also have audited, in accordance with the standards of the Public Company Accounting Oversight Board (United States) (PCAOB), the 2020 consolidated financial statements of the Company and our report dated February 2, 2021 expressed an unqualified opinion thereon.

Basis for Opinion

The Company's management is responsible for maintaining effective internal control over financial reporting and for its assessment of the effectiveness of internal control over financial reporting included in the accompanying Management's Report on Internal Control over Financial Reporting. Our responsibility is to express an opinion on the Company's internal control over financial reporting based on our audit. We are a public accounting firm registered with the PCAOB and are required to be independent with respect to the Company in accordance with the U.S. federal securities laws and the applicable rules and regulations of the U.S. Securities and Exchange Commission and the PCAOB.

We conducted our audit in accordance with the standards of the PCAOB. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether effective internal control over financial reporting was maintained in all material respects.

Our audit included obtaining an understanding of internal control over financial reporting, assessing the risk that a material weakness exists, testing and evaluating the design and operating effectiveness of internal control based on the assessed risk, and performing such other procedures as we considered necessary in the circumstances. We believe that our audit provides a reasonable basis for our opinion.

Definition and Limitations of Internal Control over Financial Reporting

A company's internal control over financial reporting is a process designed to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles. A company's internal control over financial reporting includes those policies and procedures that (1) pertain to the maintenance of records that, in reasonable detail, accurately and fairly reflect the transactions and dispositions of the assets of the company; (2) provide reasonable assurance that transactions are recorded as necessary to permit preparation of financial statements in accordance with generally accepted accounting principles, and that receipts and expenditures of the company are being made only in accordance with authorizations of management and directors of the company; and (3) provide reasonable assurance regarding prevention or timely detection of unauthorized acquisition, use, or disposition of the company's assets that could have a material effect on the financial statements.

Because of its inherent limitations, internal control over financial reporting may not prevent or detect misstatements. Also, projections of any evaluation of effectiveness to future periods are subject to the risk that controls may become inadequate because of changes in conditions, or that the degree of compliance with the policies or procedures may deteriorate.

/s/ Ernst & Young LLP

San Jose, California
February 2, 2021

Alphabet Inc.
CONSOLIDATED BALANCE SHEETS
(In millions, except share amounts which are reflected in thousands, and par value per share amounts)

	As of December 31, 2019	As of December 31, 2020
Assets		
Current assets:		
Cash and cash equivalents	$ 18,498	$ 26,465
Marketable securities	101,177	110,229
Total cash, cash equivalents, and marketable securities	119,675	136,694
Accounts receivable, net	25,326	30,930
Income taxes receivable, net	2,166	454
Inventory	999	728
Other current assets	4,412	5,490
Total current assets	152,578	174,296
Non-marketable investments	13,078	20,703
Deferred income taxes	721	1,084
Property and equipment, net	73,646	84,749
Operating lease assets	10,941	12,211
Intangible assets, net	1,979	1,445
Goodwill	20,624	21,175
Other non-current assets	2,342	3,953
Total assets	$ 275,909	$ 319,616
Liabilities and Stockholders' Equity		
Current liabilities:		
Accounts payable	$ 5,561	$ 5,589
Accrued compensation and benefits	8,495	11,086
Accrued expenses and other current liabilities	23,067	28,631
Accrued revenue share	5,916	7,500
Deferred revenue	1,908	2,543
Income taxes payable, net	274	1,485
Total current liabilities	45,221	56,834
Long-term debt	4,554	13,932
Deferred revenue, non-current	358	481
Income taxes payable, non-current	9,885	8,849
Deferred income taxes	1,701	3,561
Operating lease liabilities	10,214	11,146
Other long-term liabilities	2,534	2,269
Total liabilities	74,467	97,072
Commitments and Contingencies (Note 10)		
Stockholders' equity:		
Convertible preferred stock, $0.001 par value per share, 100,000 shares authorized; no shares issued and outstanding	0	0
Class A and Class B common stock, and Class C capital stock and additional paid-in capital, $0.001 par value per share: 15,000,000 shares authorized (Class A 9,000,000, Class B 3,000,000, Class C 3,000,000); 688,335 (Class A 299,828, Class B 46,441, Class C 342,066) and 675,222 (Class A 300,730, Class B 45,843, Class C 328,649) shares issued and outstanding	50,552	58,510
Accumulated other comprehensive income (loss)	(1,232)	633
Retained earnings	152,122	163,401
Total stockholders' equity	201,442	222,544
Total liabilities and stockholders' equity	$ 275,909	$ 319,616

See accompanying notes.

Alphabet Inc.
CONSOLIDATED STATEMENTS OF INCOME
(In millions, except per share amounts)

	Year Ended December 31,		
	2018	2019	2020
Revenues	$ 136,819	$ 161,857	$ 182,527
Costs and expenses:			
Cost of revenues	59,549	71,896	84,732
Research and development	21,419	26,018	27,573
Sales and marketing	16,333	18,464	17,946
General and administrative	6,923	9,551	11,052
European Commission fines	5,071	1,697	0
Total costs and expenses	109,295	127,626	141,303
Income from operations	27,524	34,231	41,224
Other income (expense), net	7,389	5,394	6,858
Income before income taxes	34,913	39,625	48,082
Provision for income taxes	4,177	5,282	7,813
Net income	$ 30,736	$ 34,343	$ 40,269
Basic net income per share of Class A and B common stock and Class C capital stock	$ 44.22	$ 49.59	$ 59.15
Diluted net income per share of Class A and B common stock and Class C capital stock	$ 43.70	$ 49.16	$ 58.61

See accompanying notes.

Alphabet Inc.
CONSOLIDATED STATEMENTS OF COMPREHENSIVE INCOME
(In millions)

	Year Ended December 31,		
	2018	2019	2020
Net income	$ 30,736	$ 34,343	$ 40,269
Other comprehensive income (loss):			
Change in foreign currency translation adjustment	(781)	(119)	1,139
Available-for-sale investments:			
Change in net unrealized gains (losses)	88	1,611	1,313
Less: reclassification adjustment for net (gains) losses included in net income	(911)	(111)	(513)
Net change, net of tax benefit (expense) of $156, $(221), and $(230)	(823)	1,500	800
Cash flow hedges:			
Change in net unrealized gains (losses)	290	22	42
Less: reclassification adjustment for net (gains) losses included in net income	98	(299)	(116)
Net change, net of tax benefit (expense) of $(103), $42, and $11	388	(277)	(74)
Other comprehensive income (loss)	(1,216)	1,104	1,865
Comprehensive income	$ 29,520	$ 35,447	$ 42,134

See accompanying notes.

Alphabet Inc.
CONSOLIDATED STATEMENTS OF STOCKHOLDERS' EQUITY
(In millions, except share amounts which are reflected in thousands)

	Class A and Class B Common Stock, Class C Capital Stock and Additional Paid-In Capital		Accumulated Other Comprehensive Income (Loss)	Retained Earnings	Total Stockholders' Equity
	Shares	Amount			
Balance as of December 31, 2017	694,783	$ 40,247	$ (992)	$ 113,247	$ 152,502
Cumulative effect of accounting change	0	0	(98)	(599)	(697)
Common and capital stock issued	8,975	148	0	0	148
Stock-based compensation expense	0	9,353	0	0	9,353
Tax withholding related to vesting of restricted stock units	0	(4,782)	0	0	(4,782)
Repurchases of capital stock	(8,202)	(576)	0	(8,499)	(9,075)
Sale of interest in consolidated entities	0	659	0	0	659
Net income	0	0	0	30,736	30,736
Other comprehensive income (loss)	0	0	(1,216)	0	(1,216)
Balance as of December 31, 2018	695,556	45,049	(2,306)	134,885	177,628
Cumulative effect of accounting change	0	0	(30)	(4)	(34)
Common and capital stock issued	8,120	202	0	0	202
Stock-based compensation expense	0	10,890	0	0	10,890
Tax withholding related to vesting of restricted stock units and other	0	(4,455)	0	0	(4,455)
Repurchases of capital stock	(15,341)	(1,294)	0	(17,102)	(18,396)
Sale of interest in consolidated entities	0	160	0	0	160
Net income	0	0	0	34,343	34,343
Other comprehensive income (loss)	0	0	1,104	0	1,104
Balance as of December 31, 2019	688,335	50,552	(1,232)	152,122	201,442
Common and capital stock issued	8,398	168	0	0	168
Stock-based compensation expense	0	13,123	0	0	13,123
Tax withholding related to vesting of restricted stock units and other	0	(5,969)	0	0	(5,969)
Repurchases of capital stock	(21,511)	(2,159)	0	(28,990)	(31,149)
Sale of interest in consolidated entities	0	2,795	0	0	2,795
Net income	0	0	0	40,269	40,269
Other comprehensive income (loss)	0	0	1,865	0	1,865
Balance as of December 31, 2020	675,222	$ 58,510	$ 633	$ 163,401	$ 222,544

See accompanying notes.

Alphabet Inc.
CONSOLIDATED STATEMENTS OF CASH FLOWS
(In millions)

	Year Ended December 31,		
	2018	2019	2020
Operating activities			
Net income	$ 30,736	$ 34,343	$ 40,269
Adjustments:			
Depreciation and impairment of property and equipment	8,164	10,856	12,905
Amortization and impairment of intangible assets	871	925	792
Stock-based compensation expense	9,353	10,794	12,991
Deferred income taxes	778	173	1,390
Gain on debt and equity securities, net	(6,650)	(2,798)	(6,317)
Other	(189)	(592)	1,267
Changes in assets and liabilities, net of effects of acquisitions:			
Accounts receivable	(2,169)	(4,340)	(6,524)
Income taxes, net	(2,251)	(3,128)	1,209
Other assets	(1,207)	(621)	(1,330)
Accounts payable	1,067	428	694
Accrued expenses and other liabilities	8,614	7,170	5,504
Accrued revenue share	483	1,273	1,639
Deferred revenue	371	37	635
Net cash provided by operating activities	47,971	54,520	65,124
Investing activities			
Purchases of property and equipment	(25,139)	(23,548)	(22,281)
Purchases of marketable securities	(50,158)	(100,315)	(136,576)
Maturities and sales of marketable securities	48,507	97,825	132,906
Purchases of non-marketable investments	(2,073)	(1,932)	(7,175)
Maturities and sales of non-marketable investments	1,752	405	1,023
Acquisitions, net of cash acquired, and purchases of intangible assets	(1,491)	(2,515)	(738)
Other investing activities	98	589	68
Net cash used in investing activities	(28,504)	(29,491)	(32,773)
Financing activities			
Net payments related to stock-based award activities	(4,993)	(4,765)	(5,720)
Repurchases of capital stock	(9,075)	(18,396)	(31,149)
Proceeds from issuance of debt, net of costs	6,766	317	11,761
Repayments of debt	(6,827)	(585)	(2,100)
Proceeds from sale of interest in consolidated entities, net	950	220	2,800
Net cash used in financing activities	(13,179)	(23,209)	(24,408)
Effect of exchange rate changes on cash and cash equivalents	(302)	(23)	24
Net increase in cash and cash equivalents	5,986	1,797	7,967
Cash and cash equivalents at beginning of period	10,715	16,701	18,498
Cash and cash equivalents at end of period	$ 16,701	$ 18,498	$ 26,465
Supplemental disclosures of cash flow information			
Cash paid for taxes, net of refunds	$ 5,671	$ 8,203	$ 4,990

See accompanying notes.

Alphabet Inc.

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

Note 1. Nature of Operations and Summary of Significant Accounting Policies

Nature of Operations

Google was incorporated in California in September 1998 and re-incorporated in the State of Delaware in August 2003. In 2015, we implemented a holding company reorganization, and as a result, Alphabet Inc. ("Alphabet") became the successor issuer to Google.

We generate revenues by delivering relevant, cost-effective online advertising, cloud-based solutions that provide customers with platforms, collaboration tools and services, and sales of other products and services, such as apps and in-app purchases, digital content and subscriptions for digital content, and hardware.

Basis of Consolidation

The consolidated financial statements of Alphabet include the accounts of Alphabet and entities consolidated under the variable interest and voting models. All intercompany balances and transactions have been eliminated.

Use of Estimates

Preparation of consolidated financial statements in conformity with generally accepted accounting principles in the United States ("GAAP") requires us to make estimates and assumptions that affect the amounts reported and disclosed in the financial statements and the accompanying notes. Actual results could differ materially from these estimates. On an ongoing basis, we evaluate our estimates, including those related to the allowance for credit losses, fair values of financial instruments (including non-marketable equity securities), intangible assets and goodwill, useful lives of intangible assets and property and equipment, income taxes, and contingent liabilities, among others. We base our estimates on assumptions, both historical and forward looking, that are believed to be reasonable, the results of which form the basis for making judgments about the carrying values of assets and liabilities.

As of December 31, 2020 the impact of COVID-19 continues to unfold and the extent of the impact will depend on a number of factors, including the duration and severity of the pandemic; the uneven impact to certain industries; advances in testing, treatment and prevention; and the macroeconomic impact of government measures to contain the spread of the virus and related government stimulus measures. As a result, certain of our estimates and assumptions, including the allowance for credit losses for accounts receivable, the credit worthiness of customers entering into revenue arrangements, the valuation of non-marketable equity securities, including our impairment assessment, and the fair values of our financial instruments require increased judgment and carry a higher degree of variability and volatility that could result in material changes to our estimates in future periods.

In January 2021, we completed an assessment of the useful lives of our servers and network equipment and determined we should adjust the estimated useful life of our servers from three years to four years and the estimated useful life of certain network equipment from three years to five years. This change in accounting estimate will be effective beginning fiscal year 2021.

Revenue Recognition

Revenues are recognized when control of the promised goods or services is transferred to our customers and the collectibility of an amount that we expect in exchange for those goods or services is probable. Sales and other similar taxes are excluded from revenues.

Advertising Revenues

We generate advertising revenues primarily by delivering advertising on Google Search & other properties, including Google.com, the Google Search app, Google Play, Gmail and Google Maps; YouTube, and Google Network Members' properties.

Our customers generally purchase advertising inventory through Google Ads, Google Ad Manager and Google Marketing Platform, among others.

We offer advertising by delivering both performance and brand advertising. We recognize revenues for performance advertising when a user engages with the advertisement, such as a click, a view, or a purchase. For brand advertising, we recognize revenues when the ad is displayed or a user views the ad.

For ads placed on Google Network Members' properties, we evaluate whether we are the principal (i.e., report revenues on a gross basis) or agent (i.e., report revenues on a net basis). Generally, we report advertising revenues

for ads placed on Google Network Members' properties on a gross basis, that is, the amounts billed to our customers are recorded as revenues, and amounts paid to Google Network Members are recorded as cost of revenues. Where we are the principal, we control the advertising inventory before it is transferred to our customers. Our control is evidenced by our sole ability to monetize the advertising inventory before it is transferred to our customers, and is further supported by us being primarily responsible to our customers and having a level of discretion in establishing pricing.

Google Cloud Revenues

Google Cloud revenues consist primarily of fees received for Google Cloud Platform services (which includes infrastructure and data analytics platform products and other services) and Google Workspace (formerly G Suite) collaboration tools and other enterprise services. Our cloud services are generally provided on either a consumption or subscription basis. Revenues related to cloud services provided on a consumption basis are recognized when the customer utilizes the services, based on the quantity of services consumed. Revenues related to cloud services provided on a subscription basis are recognized ratably over the contract term as the customer receives and consumes the benefits of the cloud services.

Other Revenues

Google other revenues and Other Bets revenues consist primarily of revenues from:

- Google Play, which includes revenues from sale of apps and in-app purchases (which we recognize net of payout to developers) and digital content sold in the Google Play store;
- hardware, including Google Nest home products, Pixelbooks, Pixel phones and other devices;
- YouTube non-advertising services including, YouTube premium and YouTube TV subscriptions and other services; and
- other products and services.

As it relates to Google other revenues, the most significant judgment is determining whether we are the principal or agent for app sales and in-app purchases through the Google Play store. We report revenues from these transactions on a net basis because our performance obligation is to facilitate a transaction between app developers and end users, for which we earn a commission. Consequently, the portion of the gross amount billed to end users that is remitted to app developers is not reflected as revenues.

Arrangements with Multiple Performance Obligations

Our contracts with customers may include multiple performance obligations. For such arrangements, we allocate revenues to each performance obligation based on its relative standalone selling price. We generally determine standalone selling prices based on the prices charged to customers or using expected cost plus margin.

Customer Incentives and Credits

Certain customers receive cash-based incentives or credits, which are accounted for as variable consideration. We estimate these amounts based on the expected amount to be provided to customers and reduce revenues. We believe that there will not be significant changes to our estimates of variable consideration.

Sales Commissions

We expense sales commissions when incurred when the amortization period is one year or less. We recognize an asset for certain sales commissions if we expect the period of benefit of these costs to exceed one year and amortize it over the period of expected benefit. These costs are recorded within sales and marketing expenses.

Cost of Revenues

Cost of revenues consists of TAC and other costs of revenues.

TAC represents the amounts paid to our distribution partners who make available our search access points and services and amounts paid to Google Network Members primarily for ads displayed on their properties. Our distribution partners include browser providers, mobile carriers, original equipment manufacturers, and software developers.

Other cost of revenues (which is the cost of revenues excluding TAC) includes the following:

- Content acquisition costs primarily related to payments to content providers from whom we license video and other content for distribution on YouTube advertising and subscription services and Google Play. We pay fees to these content providers based on revenues generated or a flat fee;

- Expenses associated with our data centers and other operations (including bandwidth, compensation expense (including SBC), depreciation, energy, and other equipment costs); and
- Inventory related costs for hardware we sell.

Software Development Costs

We expense software development costs, including costs to develop software products or the software component of products to be sold, leased, or marketed to external users, before technological feasibility is reached. Technological feasibility is typically reached shortly before the release of such products and as a result, development costs that meet the criteria for capitalization were not material for the periods presented.

Software development costs also include costs to develop software to be used solely to meet internal needs and cloud based applications used to deliver our services. We capitalize development costs related to these software applications once the preliminary project stage is complete and it is probable that the project will be completed and the software will be used to perform the function intended. Costs capitalized for developing such software applications were not material for the periods presented.

Stock-based Compensation

Stock-based compensation primarily consists of Alphabet restricted stock units ("RSUs"). RSUs are equity classified and measured at the fair market value of the underlying stock at the grant date. We recognize RSU expense using the straight-line attribution method over the requisite service period and account for forfeitures as they occur.

For RSUs, shares are issued on the vesting dates net of the applicable statutory tax withholding to be paid by us on behalf of our employees. As a result, fewer shares are issued than the number of RSUs outstanding and the tax withholding is recorded as a reduction to additional paid-in capital.

Additionally, stock-based compensation also includes other stock-based awards, such as performance stock units ("PSUs") and awards that may be settled in cash or the stock of certain Other Bets. PSUs and certain Other Bet awards are equity classified and expense is recognized over the requisite service period. Certain Other Bet awards are liability classified and remeasured at fair value through settlement. The fair value of Other Bet awards is based on the equity valuation of the respective Other Bet.

Advertising and Promotional Expenses

We expense advertising and promotional costs in the period in which they are incurred. For the years ended December 31, 2018, 2019 and 2020, advertising and promotional expenses totaled approximately $6.4 billion, $6.8 billion, and $5.4 billion, respectively.

Performance Fees

Performance fees refer to compensation arrangements with payouts based on realized investment returns. We recognize compensation expense based on the estimated payouts, which may result in expense recognized before investment returns are realized. Performance fees, which are primarily related to gains on equity securities, are recorded as a component of other income (expense), net.

Certain Risks and Concentrations

Our revenues are primarily derived from online advertising, the market for which is highly competitive and rapidly changing. In addition, our revenues are generated from a multitude of markets in countries around the world. Significant changes in this industry or changes in customer buying or advertiser spending behavior could adversely affect our operating results.

No individual customer or groups of affiliated customers represented more than 10% of our revenues in 2018, 2019, or 2020. In 2018, 2019, and 2020, we generated approximately 46%, 46%, and 47% of our revenues, respectively, from customers based in the U.S.

We are subject to concentrations of credit risk principally from cash and cash equivalents, marketable securities, foreign exchange contracts, and accounts receivable. We manage our credit risk exposure through timely assessment of our counterparty creditworthiness, credit limits and use of collateral management.

Cash equivalents and marketable securities consist primarily of time deposits, money market and other funds, highly liquid debt instruments of the U.S. government and its agencies, debt instruments issued by foreign governments, debt instruments issued by municipalities in the U.S., corporate debt securities, mortgage-backed securities, and asset-backed securities. Foreign exchange contracts are transacted with various financial institutions with high credit standing. Accounts receivable are typically unsecured and are derived from revenues earned from

customers located around the world. We perform ongoing evaluations to determine customer credit and we limit the amount of credit we extend. We generally do not require collateral from our customers.

Fair Value of Financial Instruments

Our financial assets and liabilities that are measured at fair value on a recurring basis include cash equivalents, marketable securities, derivative contracts, and non-marketable debt securities. Our financial assets measured at fair value on a nonrecurring basis include non-marketable equity securities, which are adjusted to fair value when observable price changes are identified or when the non-marketable equity securities are impaired (referred to as the measurement alternative). Other financial assets and liabilities are carried at cost with fair value disclosed, if required.

Fair value is an exit price, representing the amount that would be received to sell an asset or paid to transfer a liability in an orderly transaction between market participants. As such, fair value is a market-based measurement that is determined based on assumptions that market participants would use in pricing an asset or a liability. Assets and liabilities recorded at fair value are measured and classified in accordance with a three-tier fair value hierarchy based on the observability of the inputs available in the market used to measure fair value:

Level 1 - Observable inputs that reflect quoted prices (unadjusted) for identical assets or liabilities in active markets.

Level 2 - Inputs that are based upon quoted prices for similar instruments in active markets, quoted prices for identical or similar instruments in markets that are not active, and model-based valuation techniques for which all significant inputs are observable in the market or can be derived from observable market data. Where applicable, these models project future cash flows and discount the future amounts to a present value using market-based observable inputs including interest rate curves, foreign exchange rates, and credit ratings.

Level 3 - Unobservable inputs that are supported by little or no market activities.

The fair value hierarchy requires an entity to maximize the use of observable inputs and minimize the use of unobservable inputs when measuring fair value.

Cash, Cash Equivalents, and Marketable Securities

We invest all excess cash primarily in government bonds, corporate debt securities, mortgage-backed and asset-backed securities, time deposits, and money market funds.

We classify all marketable debt securities that have stated maturities of three months or less from the date of purchase as cash equivalents and those with stated maturities of greater than three months as marketable securities on our Consolidated Balance Sheets.

We determine the appropriate classification of our investments in marketable debt securities at the time of purchase and reevaluate such designation at each balance sheet date. We have classified and accounted for our marketable debt securities as available-for-sale. After consideration of our risk versus reward objectives, as well as our liquidity requirements, we may sell these debt securities prior to their stated maturities. As we view these securities as available to support current operations, we classify highly liquid securities with maturities beyond 12 months as current assets under the caption marketable securities on the Consolidated Balance Sheets. We carry these securities at fair value, and report the unrealized gains and losses, net of taxes, as a component of stockholders' equity, except for the changes in allowance for expected credit losses, which are recorded in other income (expense), net. For certain marketable debt securities we have elected the fair value option, for which changes in fair value are recorded in other income (expense), net. We determine any realized gains or losses on the sale of marketable debt securities on a specific identification method, and we record such gains and losses as a component of other income (expense), net.

Our investments in marketable equity securities are measured at fair value with the related gains and losses, realized and unrealized, recognized in other income (expense), net.

Accounts Receivable

Our payment terms for accounts receivable vary by the type and location of our customer and the products or services offered. The term between invoicing and when payment is due is not significant. For certain products or services and customers, we require payment before the products or services are delivered to the customer.

We maintain an allowance for credit losses for accounts receivable, which is recorded as an offset to accounts receivable and changes in such are classified as general and administrative expense in the Consolidated Statements of Income. We assess collectibility by reviewing accounts receivable on a collective basis where similar characteristics exist and on an individual basis when we identify specific customers with known disputes or collectibility issues. In determining the amount of the allowance for credit losses, we consider historical collectibility based on past due status and make judgments about the creditworthiness of customers based on ongoing credit evaluations. We also consider customer-specific information, current market conditions and reasonable and supportable forecasts of future economic conditions to inform adjustments to historical loss data.

For the year ended December 31, 2020, our assessment considered the impact of COVID-19 and estimates of expected credit and collectibility trends. Volatility in market conditions and evolving credit trends are difficult to predict and may cause variability and volatility that may have a material impact on our allowance for credit losses in future periods. The allowance for credit losses on accounts receivable was $275 million and $789 million as of December 31, 2019 and 2020, respectively.

Inventory

Inventory consists primarily of finished goods and is stated at the lower of cost and net realizable value. Cost is computed using the first-in, first-out method.

Non-Marketable Investments

We account for non-marketable equity investments through which we exercise significant influence but do not have control over the investee under the equity method. Our non-marketable equity securities not accounted for under the equity method are primarily accounted for under the measurement alternative. Under the measurement alternative, the carrying value of our non-marketable equity investments is adjusted to fair value for observable transactions for identical or similar investments of the same issuer or impairment. Adjustments are determined primarily based on a market approach as of the transaction date and are recorded as a component of other income (expense), net.

Non-marketable debt investments are classified as available-for-sale securities.

Non-marketable investments that do not have stated contractual maturity dates are classified as non-current assets on the Consolidated Balance Sheets.

Impairment of Investments

We periodically review our debt and non-marketable equity investments for impairment.

For debt securities in an unrealized loss position, we determine whether a credit loss exists. The credit loss is estimated by considering available information relevant to the collectibility of the security and information about past events, current conditions, and reasonable and supportable forecasts. Any credit loss is recorded as a charge to other income (expense), net, not to exceed the amount of the unrealized loss. Unrealized losses other than the credit loss are recognized in accumulated other comprehensive income ("AOCI"). If we have an intent to sell, or if it is more likely than not that we will be required to sell a debt security in an unrealized loss position before recovery of its amortized cost basis, we will write down the security to its fair value and record the corresponding charge as a component of other income (expense), net.

For non-marketable equity securities we consider whether impairment indicators exist by evaluating the companies' financial and liquidity position, access to capital resources and the time since the last adjustment to fair value, among others. If the assessment indicates that the investment is impaired, we write down the investment to its fair value by recording the corresponding charge as a component of other income (expense), net. Fair value is estimated using the best information available, which may include cash flow projections or other available market data.

Variable Interest Entities

We determine at the inception of each arrangement whether an entity in which we have made an investment or in which we have other variable interests is considered a variable interest entity ("VIE"). We consolidate VIEs when we are the primary beneficiary. We are the primary beneficiary of a VIE when we have the power to direct activities that most significantly affect the economic performance of the VIE and have the obligation to absorb the majority of their losses or benefits. If we are not the primary beneficiary in a VIE, we account for the investment or other variable interests in a VIE in accordance with applicable GAAP.

Periodically, we assess whether any changes in our interest or relationship with the entity affect our determination of whether the entity is a VIE and, if so, whether we are the primary beneficiary.

Property and Equipment

Property and equipment includes the following categories: land and buildings, information technology assets, construction in progress, leasehold improvements, and furniture and fixtures. Land and buildings include land, offices, data centers and related building improvements. Information technology assets include servers and network equipment. We account for property and equipment at cost less accumulated depreciation. We compute depreciation using the straight-line method over the estimated useful lives of the assets, which we regularly evaluate. We depreciate buildings over periods of seven to 25 years. We depreciate information technology assets generally over periods of three to five years (specifically, three years for servers and three to five years for network equipment).

We depreciate leasehold improvements over the shorter of the remaining lease term or the estimated useful lives of the assets. Construction in progress is the construction or development of property and equipment that have not yet been placed in service for our intended use. Depreciation for equipment, buildings, and leasehold improvements commences once they are ready for our intended use. Land is not depreciated.

Leases

We determine if an arrangement is a lease at inception. Our lease agreements generally contain lease and non-lease components. Payments under our lease arrangements are primarily fixed. Non-lease components primarily include payments for maintenance and utilities. We combine fixed payments for non-lease components with lease payments and account for them together as a single lease component which increases the amount of our lease assets and liabilities.

Certain lease agreements contain variable payments, which are expensed as incurred and not included in the lease assets and liabilities. These amounts include payments affected by the Consumer Price Index, payments contingent on wind or solar production for power purchase arrangements, and payments for maintenance and utilities.

Lease assets and liabilities are recognized at the present value of the future lease payments at the lease commencement date. The interest rate used to determine the present value of the future lease payments is our incremental borrowing rate, because the interest rate implicit in our leases is not readily determinable. Our incremental borrowing rate is estimated to approximate the interest rate on a collateralized basis with similar terms and payments, and in economic environments where the leased asset is located. Our lease terms include periods under options to extend or terminate the lease when it is reasonably certain that we will exercise that option. We generally use the base, non-cancelable, lease term when determining the lease assets and liabilities. Lease assets also include any prepaid lease payments and lease incentives.

Operating lease assets and liabilities are included on our Consolidated Balance Sheet beginning January 1, 2019. The current portion of our operating lease liabilities is included in accrued expenses and other current liabilities and the long term portion is included in operating lease liabilities. Finance lease assets are included in property and equipment, net. Finance lease liabilities are included in accrued expenses and other current liabilities or long-term debt.

Operating lease expense (excluding variable lease costs) is recognized on a straight-line basis over the lease term.

Long-Lived Assets, Goodwill and Other Acquired Intangible Assets

We review property and equipment, long-term prepayments and intangible assets, excluding goodwill, for impairment when events or changes in circumstances indicate the carrying amount may not be recoverable. We measure recoverability of these assets by comparing the carrying amounts to the future undiscounted cash flows that the assets or the asset group are expected to generate. If the carrying value of the assets or asset group are not recoverable, the impairment recognized is measured as the amount by which the carrying value exceeds its fair value. Impairments were not material for the periods presented.

We allocate goodwill to reporting units based on the expected benefit from the business combination. We evaluate our reporting units periodically, as well as when changes in our operating segments occur. For changes in reporting units, we reassign goodwill using a relative fair value allocation approach. We test our goodwill for impairment at least annually, or more frequently if events or changes in circumstances indicate that the asset may be impaired. Goodwill impairments were not material for the periods presented.

Intangible assets with definite lives are amortized over their estimated useful lives. We amortize intangible assets on a straight-line basis with definite lives generally over periods ranging from one to twelve years.

Income Taxes

We account for income taxes using the asset and liability method, under which we recognize the amount of taxes payable or refundable for the current year and deferred tax assets and liabilities for the future tax consequences of events that have been recognized in our financial statements or tax returns. We measure current and deferred tax assets and liabilities based on provisions of enacted tax law. We evaluate the realization of our deferred tax assets based on all available evidence and establish a valuation allowance to reduce deferred tax assets when it is more likely than not that they will not be realized.

We recognize the financial statement effects of a tax position when it is more likely than not that, based on technical merits, the position will be sustained upon examination. The tax benefits of the position recognized in the financial statements are then measured based on the largest amount of benefit that is greater than 50% likely to be realized upon settlement with a taxing authority. In addition, we recognize interest and penalties related to unrecognized tax benefits as a component of the income tax provision.

Business Combinations

We include the results of operations of the businesses that we acquire as of the acquisition date. We allocate the purchase price of the acquisitions to the assets acquired and liabilities assumed based on their estimated fair values. The excess of the purchase price over the fair values of identifiable assets and liabilities is recorded as goodwill. Acquisition-related expenses are recognized separately from the business combination and are expensed as incurred.

Foreign Currency

Generally, the functional currency of our international subsidiaries is the local currency. We translate the financial statements of these subsidiaries to U.S. dollars using month-end exchange rates for assets and liabilities, and average rates for the annual period derived from month-end exchange rates for revenues, costs, and expenses. We record translation gains and losses in accumulated other comprehensive income (AOCI) as a component of stockholders' equity. We reflect net foreign exchange transaction gains and losses resulting from the conversion of the transaction currency to functional currency as a component of foreign currency exchange gain (loss) in other income (expense), net.

Recently Adopted Accounting Pronouncements

In June 2016, the Financial Accounting Standards Board ("FASB") issued Accounting Standards Update No. 2016-13 ("ASU 2016-13") "Financial Instruments-Credit Losses (Topic 326): Measurement of Credit Losses on Financial Instruments", which requires the measurement and recognition of expected credit losses for financial assets held at amortized cost. ASU 2016-13 replaces the existing incurred loss impairment model with an expected loss model which requires the use of forward-looking information to calculate credit loss estimates. It also eliminates the concept of other-than-temporary impairment and requires credit losses related to certain available-for-sale debt securities to be recorded through an allowance for credit losses rather than as a reduction in the amortized cost basis of the securities. These changes result in earlier recognition of credit losses. We adopted ASU 2016-13 using the modified retrospective approach as of January 1, 2020. The cumulative effect upon adoption was not material to our consolidated financial statements. See “Impairment of Investments” and "Accounts Receivable" above as well as Note 3 for the effect on our consolidated financial statements.

Prior Period Reclassifications

Certain amounts in prior periods have been reclassified to conform with current period presentation. See Note 15 for further details.

Note 2. Revenues

Revenue Recognition

The following table presents our revenues disaggregated by type (in millions).

	Year Ended December 31,		
	2018	2019	2020
Google Search & other	$ 85,296	$ 98,115	$ 104,062
YouTube ads	11,155	15,149	19,772
Google Network Members' properties	20,010	21,547	23,090
Google advertising	116,461	134,811	146,924
Google other	14,063	17,014	21,711
Google Services total	130,524	151,825	168,635
Google Cloud	5,838	8,918	13,059
Other Bets	595	659	657
Hedging gains (losses)	(138)	455	176
Total revenues	$ 136,819	$ 161,857	$ 182,527

The following table presents our revenues disaggregated by geography, based on the addresses of our customers (in millions):

	Year Ended December 31,					
	2018		2019		2020	
United States	$ 63,269	46 %	$ 74,843	46 %	$ 85,014	47 %
EMEA[(1)]	44,739	33	50,645	31	55,370	30
APAC[(1)]	21,341	15	26,928	17	32,550	18
Other Americas[(1)]	7,608	6	8,986	6	9,417	5
Hedging gains (losses)	(138)	0	455	0	176	0
Total revenues	$ 136,819	100 %	$ 161,857	100 %	$ 182,527	100 %

(1) Regions represent Europe, the Middle East, and Africa ("EMEA"); Asia-Pacific ("APAC"); and Canada and Latin America ("Other Americas").

Deferred Revenues and Remaining Performance Obligations

We record deferred revenues when cash payments are received or due in advance of our performance, including amounts which are refundable. Deferred revenues primarily relate to Google Cloud and Google other. Our total deferred revenue as of December 31, 2019 was $2.3 billion, of which $1.8 billion was recognized as revenues for the year ending December 31, 2020.

Additionally, we have performance obligations associated with commitments in customer contracts, primarily related to Google Cloud, for future services that have not yet been recognized as revenues, also referred to as remaining performance obligations. Remaining performance obligations include related deferred revenue currently recorded as well as amounts that will be invoiced in future periods, and excludes (i) contracts with an original expected term of one year or less, (ii) cancellable contracts, and (iii) contracts for which we recognize revenue at the amount to which we have the right to invoice for services performed. As of December 31, 2020, the amount not yet recognized as revenues from these commitments is $29.8 billion. We expect to recognize approximately half over the next 24 months with the remaining thereafter. However, the amount and timing of revenue recognition is largely driven by when the customer utilizes the services and our ability to deliver in accordance with relevant contract terms, which could impact our estimate of the remaining performance obligations and when we expect to recognize such as revenues.

Note 3. Financial Instruments

Debt Securities

We classify our marketable debt securities, which are accounted for as available-for-sale, within Level 2 in the fair value hierarchy because we use quoted market prices to the extent available or alternative pricing sources and models utilizing market observable inputs to determine fair value.

For certain marketable debt securities, we have elected the fair value option for which changes in fair value are recorded in other income (expense), net. The fair value option was elected for these securities to align with the unrealized gains and losses from related derivative contracts. Unrealized net gains related to debt securities still held where we have elected the fair value option were $87 million as of December 31, 2020. As of December 31, 2020, the fair value of these debt securities was $2 billion. Balances as of December 31, 2019 were not material.

The following tables summarize our debt securities, for which we did not elect the fair value option, by significant investment categories as of December 31, 2019 and 2020 (in millions):

	As of December 31, 2019					
	Adjusted Cost	Gross Unrealized Gains	Gross Unrealized Losses	Fair Value	Cash and Cash Equivalents	Marketable Securities
Level 2:						
Time deposits[1]	$ 2,294	$ 0	$ 0	$ 2,294	$ 2,294	$ 0
Government bonds	55,033	434	(30)	55,437	4,518	50,919
Corporate debt securities	27,164	337	(3)	27,498	44	27,454
Mortgage-backed and asset-backed securities	19,453	96	(41)	19,508	0	19,508
Total	$103,944	$ 867	$ (74)	$104,737	$ 6,856	$ 97,881

	As of December 31, 2020					
	Adjusted Cost	Gross Unrealized Gains	Gross Unrealized Losses	Fair Value	Cash and Cash Equivalents	Marketable Securities
Level 2:						
Time deposits[1]	$ 3,564	$ 0	$ 0	$ 3,564	$ 3,564	$ 0
Government bonds	55,156	793	(9)	55,940	2,527	53,413
Corporate debt securities	31,521	704	(2)	32,223	8	32,215
Mortgage-backed and asset-backed securities	16,767	364	(7)	17,124	0	17,124
Total	$107,008	$ 1,861	$ (18)	$108,851	$ 6,099	$102,752

[1] The majority of our time deposits are domestic deposits.

We determine realized gains or losses on the sale or extinguishment of debt securities on a specific identification method. We recognized gross realized gains of $1.3 billion, $292 million, and $899 million for the years ended December 31, 2018, 2019, and 2020, respectively. We recognized gross realized losses of $143 million, $143 million, and $184 million for the years ended December 31, 2018, 2019, and 2020, respectively. We reflect these gains and losses as a component of other income (expense), net.

The following table summarizes the estimated fair value of our investments in marketable debt securities by stated contractual maturity dates (in millions):

	As of December 31, 2020
Due in 1 year or less	$ 19,795
Due in 1 year through 5 years	69,228
Due in 5 years through 10 years	2,739
Due after 10 years	13,038
Total	$ 104,800

The following tables present fair values and gross unrealized losses recorded to AOCI as of December 31, 2019 and 2020, aggregated by investment category and the length of time that individual securities have been in a continuous loss position (in millions):

	As of December 31, 2019					
	Less than 12 Months		12 Months or Greater		Total	
	Fair Value	Unrealized Loss	Fair Value	Unrealized Loss	Fair Value	Unrealized Loss
Government bonds	$ 6,752	$ (20)	$ 4,590	$ (10)	$ 11,342	$ (30)
Corporate debt securities	1,665	(2)	978	(1)	2,643	(3)
Mortgage-backed and asset-backed securities	4,536	(13)	2,835	(28)	7,371	(41)
Total	$ 12,953	$ (35)	$ 8,403	$ (39)	$ 21,356	$ (74)

	As of December 31, 2020					
	Less than 12 Months		12 Months or Greater		Total	
	Fair Value	Unrealized Loss	Fair Value	Unrealized Loss	Fair Value	Unrealized Loss
Government bonds	$ 5,516	$ (9)	$ 3	$ 0	$ 5,519	$ (9)
Corporate debt securities	1,999	(1)	0	0	1,999	(1)
Mortgage-backed and asset-backed securities	929	(5)	242	(2)	1,171	(7)
Total	$ 8,444	$ (15)	$ 245	$ (2)	$ 8,689	$ (17)

During the years ended December 31, 2018, and 2019 we did not recognize any significant other-than-temporary impairment losses. During the year ended December 31, 2020, with the adoption of ASU 2016-13, we did not recognize significant credit losses and the ending allowance for credit losses was immaterial. See Note 7 for further details on other income (expense), net.

Equity Investments

The following discusses our marketable equity securities, non-marketable equity securities, gains and losses on marketable and non-marketable equity securities, as well as our equity securities accounted for under the equity method.

Our marketable equity securities are publicly traded stocks or funds measured at fair value and classified within Level 1 and 2 in the fair value hierarchy because we use quoted prices for identical assets in active markets or inputs that are based upon quoted prices for similar instruments in active markets.

Our non-marketable equity securities are investments in privately held companies without readily determinable market values. The carrying value of our non-marketable equity securities is adjusted to fair value for observable transactions for identical or similar investments of the same issuer or impairment (referred to as the measurement alternative). Non-marketable equity securities that have been remeasured during the period based on observable transactions are classified within Level 2 or Level 3 in the fair value hierarchy because we estimate the value based on valuation methods which may include a combination of the observable transaction price at the transaction date and other unobservable inputs including volatility, rights, and obligations of the securities we hold. The fair value of non-marketable equity securities that have been remeasured due to impairment are classified within Level 3.

Gains and losses on marketable and non-marketable equity securities

Gains and losses reflected in other income (expense), net, for our marketable and non-marketable equity securities are summarized below (in millions):

	Year Ended December 31,	
	2019	2020
Net gain (loss) on equity securities sold during the period	$ (301)	$ 1,339
Net unrealized gain (loss) on equity securities held as of the end of the period	2,950	4,253
Total gain (loss) recognized in other income (expense), net	$ 2,649	$ 5,592

In the table above, net gain (loss) on equity securities sold during the period reflects the difference between the sale proceeds and the carrying value of the equity securities at the beginning of the period or the purchase date, if later.

Cumulative net gains (losses) on equity securities sold during the period, which is summarized in the following table (in millions), represents the total net gains (losses) recognized after the initial purchase date of the equity security. While these net gains may have been reflected in periods prior to the period of sale, we believe they are important supplemental information as they reflect the economic realized net gains on the securities sold during the period. Cumulative net gains are calculated as the difference between the sale price and the initial purchase price for the equity security sold during the period.

	Equity Securities Sold During the Year Ended December 31,	
	2019	2020
Total sale price	$ 3,134	$ 4,767
Total initial cost	858	2,674
Cumulative net gains (losses)	$ 2,276	$ 2,093

Carrying value of marketable and non-marketable equity securities

The carrying value is measured as the total initial cost plus the cumulative net gain (loss). The carrying values for our marketable and non-marketable equity securities are summarized below (in millions):

	As of December 31, 2019		
	Marketable Equity Securities	Non-Marketable Equity Securities	Total
Total initial cost	$ 1,935	$ 8,297	$ 10,232
Cumulative net gain (loss)[1]	1,361	3,056	4,417
Carrying value	$ 3,296	$ 11,353	$ 14,649

(1) Non-marketable equity securities cumulative net gain (loss) is comprised of $3.5 billion unrealized gains and $445 million unrealized losses (including impairment).

	As of December 31, 2020		
	Marketable Equity Securities	Non-Marketable Equity Securities	Total
Total initial cost	$ 2,227	$ 14,616	$ 16,843
Cumulative net gain (loss)[1]	3,631	4,277	7,908
Carrying value[2]	$ 5,858	$ 18,893	$ 24,751

(1) Non-marketable equity securities cumulative net gain (loss) is comprised of $6.1 billion unrealized gains and $1.9 billion unrealized losses (including impairment).

(2) The long-term portion of marketable equity securities of $429 million is included in other non-current assets.

Marketable equity securities

The following table summarizes marketable equity securities measured at fair value by significant investment categories as of December 31, 2019 and 2020 (in millions):

	As of December 31, 2019		As of December 31, 2020	
	Cash and Cash Equivalents	Marketable Equity Securities	Cash and Cash Equivalents	Marketable Equity Securities
Level 1:				
Money market funds	$ 4,604	$ 0	$ 12,210	$ 0
Marketable equity securities[1][2]	0	3,046	0	5,470
	4,604	3,046	12,210	5,470
Level 2:				
Mutual funds	0	250	0	388
Total	$ 4,604	$ 3,296	$ 12,210	$ 5,858

(1) The balance as of December 31, 2019 and 2020 includes investments that were reclassified from non-marketable equity securities following the commencement of public market trading of the issuers or acquisition by public entities. As of December 31, 2020 certain investments are subject to short-term lock-up restrictions.

(2) As of December 31, 2020 the long-term portion of marketable equity securities of $429 million is included within other non-current assets.

Non-marketable equity securities

The following is a summary of unrealized gains and losses recorded in other income (expense), net, and included as adjustments to the carrying value of non-marketable equity securities (in millions):

	Year Ended December 31,	
	2019	2020
Unrealized gains	$ 2,163	$ 3,020
Unrealized losses (including impairment)	(372)	(1,489)
Total unrealized gain (loss) for non-marketable equity securities	$ 1,791	$ 1,531

During the year ended December 31, 2020, included in the $18.9 billion of non-marketable equity securities, $9.7 billion were measured at fair value resulting in a net unrealized gain of $1.5 billion.

Equity securities accounted for under the Equity Method

As of December 31, 2019 and 2020, equity securities accounted for under the equity method had a carrying value of approximately $1.3 billion and $1.4 billion, respectively. Our share of gains and losses including impairment are included as a component of other income (expense), net, in the Consolidated Statements of Income. See Note 7 for further details on other income (expense), net.

Derivative Financial Instruments

We enter into derivative instruments to manage risks relating to our ongoing business operations. The primary risk managed with derivative instruments is foreign exchange risk. We use foreign currency contracts to reduce the risk that our cash flows, earnings, and investment in foreign subsidiaries will be adversely affected by foreign currency exchange rate fluctuations. We also enter into derivative instruments to partially offset our exposure to other risks and enhance investment returns.

We recognize derivative instruments as either assets or liabilities in the Consolidated Balance Sheets at fair value and classify the derivatives primarily within Level 2 in the fair value hierarchy. We present our collar contracts (an option strategy comprised of a combination of purchased and written options) at net fair values where both the purchased and written options are with the same counterparty. For other derivative contracts, we present at gross fair values. We primarily record changes in the fair value in the Consolidated Statements of Income as either other income (expense), net, or revenues, or in the Consolidated Balance Sheets in AOCI, as discussed below.

We enter into master netting arrangements, which reduce credit risk by permitting net settlement of transactions with the same counterparty. Further, we enter into collateral security arrangements that provide for collateral to be received or pledged when the net fair value of certain financial instruments fluctuates from contractually established thresholds. Cash collateral received related to derivative instruments under our collateral security arrangements are included in other current assets with a corresponding liability. Cash and non-cash

collateral pledged related to derivative instruments under our collateral security arrangements are included in other current assets.

Cash Flow Hedges

We designate foreign currency forward and option contracts (including collars) as cash flow hedges to hedge certain forecasted revenue transactions denominated in currencies other than the U.S. dollar. These contracts have maturities of 24 months or less.

Cash flow hedge amounts included in the assessment of hedge effectiveness are deferred in AOCI and subsequently reclassified to revenue when the hedged item is recognized in earnings. We exclude the change in forward points and time value from our assessment of hedge effectiveness. The initial value of the excluded component is amortized on a straight-line basis over the life of the hedging instrument and recognized in revenues. The difference between fair value changes of the excluded component and the amount amortized to revenues is recorded in AOCI. If the hedged transactions become probable of not occurring, the corresponding amounts in AOCI are reclassified to other income (expense), net in the period of de-designation.

As of December 31, 2020, the net accumulated loss on our foreign currency cash flow hedges before tax effect was $124 million, which is expected to be reclassified from AOCI into earnings within the next 12 months.

Fair Value Hedges

We designate foreign currency forward contracts as fair value hedges to hedge foreign currency risks for our investments denominated in currencies other than the U.S. dollar. Fair value hedge amounts included in the assessment of hedge effectiveness are recognized in other income (expense), net, along with the offsetting gains and losses of the related hedged items. We exclude changes in forward points from the assessment of hedge effectiveness and recognize changes in the excluded component in other income (expense), net.

Net Investment Hedges

We designate foreign currency forward contracts as net investment hedges to hedge the foreign currency risks related to our investment in foreign subsidiaries. Net investment hedge amounts included in the assessment of hedge effectiveness are recognized in AOCI along with the foreign currency translation adjustment. We exclude changes in forward points from the assessment of hedge effectiveness and recognize changes in the excluded component in other income (expense), net.

Other Derivatives

Other derivatives not designated as hedging instruments consist primarily of foreign currency forward contracts that we use to hedge intercompany transactions and other monetary assets or liabilities denominated in currencies other than the functional currency of a subsidiary. Gains and losses on these contracts, as well as the related costs, are recognized in other income (expense), net, along with the foreign currency gains and losses on monetary assets and liabilities.

We also use derivatives not designated as hedging instruments to manage risks relating to interest rates, equity and commodity prices, credit exposures and to enhance investment returns.

The gross notional amounts of our outstanding derivative instruments were as follows (in millions):

	As of December 31, 2019	As of December 31, 2020
Derivatives Designated as Hedging Instruments:		
Foreign exchange contracts		
Cash flow hedges	$ 13,207	$ 10,187
Fair value hedges	$ 455	$ 1,569
Net investment hedges	$ 9,318	$ 9,965
Derivatives Not Designated as Hedging Instruments:		
Foreign exchange contracts	$ 43,497	$ 39,861
Other contracts	$ 117	$ 2,399

The fair values of our outstanding derivative instruments were as follows (in millions):

		As of December 31, 2019		
	Balance Sheet Location	Fair Value of Derivatives Designated as Hedging Instruments	Fair Value of Derivatives Not Designated as Hedging Instruments	Total Fair Value
Derivative Assets:				
Level 2:				
Foreign exchange contracts	Other current and non-current assets	$ 91	$ 253	$ 344
Other contracts	Other current and non-current assets	0	1	1
Total		$ 91	$ 254	$ 345
Derivative Liabilities:				
Level 2:				
Foreign exchange contracts	Accrued expenses and other liabilities, current and non-current	$ 173	$ 196	$ 369
Other contracts	Accrued expenses and other liabilities, current and non-current	0	13	13
Total		$ 173	$ 209	$ 382

		As of December 31, 2020		
	Balance Sheet Location	Fair Value of Derivatives Designated as Hedging Instruments	Fair Value of Derivatives Not Designated as Hedging Instruments	Total Fair Value
Derivative Assets:				
Level 2:				
Foreign exchange contracts	Other current and non-current assets	$ 33	$ 316	$ 349
Other contracts	Other current and non-current assets	0	16	16
Total		$ 33	$ 332	$ 365
Derivative Liabilities:				
Level 2:				
Foreign exchange contracts	Accrued expenses and other liabilities, current and non-current	$ 395	$ 185	$ 580
Other contracts	Accrued expenses and other liabilities, current and non-current	0	942	942
Total		$ 395	$ 1,127	$ 1,522

The gains (losses) on derivatives in cash flow hedging and net investment hedging relationships recognized in other comprehensive income ("OCI") are summarized below (in millions):

	Gains (Losses) Recognized in OCI on Derivatives Before Tax Effect		
	Year Ended December 31,		
	2018	2019	2020
Derivatives in Cash Flow Hedging Relationship:			
Foreign exchange contracts			
Amount included in the assessment of effectiveness	$ 332	$ 38	$ 102
Amount excluded from the assessment of effectiveness	26	(14)	(37)
Derivatives in Net Investment Hedging Relationship:			
Foreign exchange contracts			
Amount included in the assessment of effectiveness	136	131	(851)
Total	$ 494	$ 155	$ (786)

The effect of derivative instruments on income is summarized below (in millions):

	Gains (Losses) Recognized in Income					
	Year Ended December 31,					
	2018		2019		2020	
	Revenues	Other income (expense), net	Revenues	Other income (expense), net	Revenues	Other income (expense), net
Total amounts presented in the Consolidated Statements of Income in which the effects of cash flow and fair value hedges are recorded	$136,819	$ 7,389	$161,857	$ 5,394	$182,527	$ 6,858
Gains (Losses) on Derivatives in Cash Flow Hedging Relationship:						
Foreign exchange contracts						
Amount of gains (losses) reclassified from AOCI to income	$ (139)	$ 0	$ 367	$ 0	$ 144	$ 0
Amount excluded from the assessment of effectiveness recognized in earnings based on an amortization approach	1	0	88	0	33	0
Gains (Losses) on Derivatives in Fair Value Hedging Relationship:						
Foreign exchange contracts						
Hedged items	0	(96)	0	(19)	0	18
Derivatives designated as hedging instruments	0	96	0	19	0	(18)
Amount excluded from the assessment of effectiveness	0	37	0	25	0	4
Gains (Losses) on Derivatives in Net Investment Hedging Relationship:						
Foreign exchange contracts						
Amount excluded from the assessment of effectiveness	0	78	0	243	0	151
Gains (Losses) on Derivatives Not Designated as Hedging Instruments:						
Foreign exchange contracts	0	54	0	(413)	0	718
Other Contracts	0	0	0	0	0	(906)
Total gains (losses)	$ (138)	$ 169	$ 455	$ (145)	$ 177	$ (33)

Offsetting of Derivatives

The gross amounts of our derivative instruments subject to master netting arrangements with various counterparties, and cash and non-cash collateral received and pledged under such agreements were as follows (in millions):

Offsetting of Assets

	As of December 31, 2019						
				Gross Amounts Not Offset in the Consolidated Balance Sheets, but Have Legal Rights to Offset			
	Gross Amounts of Recognized Assets	Gross Amounts Offset in the Consolidated Balance Sheets	Net Presented in the Consolidated Balance Sheets	Financial Instruments	Cash Collateral Received	Non-Cash Collateral Received	Net Assets Exposed
Derivatives	$ 366	$ (21)	$ 345	$ (88) [1]	$ (234)	$ 0	$ 23

	As of December 31, 2020						
				Gross Amounts Not Offset in the Consolidated Balance Sheets, but Have Legal Rights to Offset			
	Gross Amounts of Recognized Assets	Gross Amounts Offset in the Consolidated Balance Sheets	Net Presented in the Consolidated Balance Sheets	Financial Instruments	Cash Collateral Received	Non-Cash Collateral Received	Net Assets Exposed
Derivatives	$ 397	$ (32)	$ 365	$ (295) [1]	$ (16)	$ 0	$ 54

[1] The balances as of December 31, 2019 and 2020 were related to derivative liabilities which are allowed to be net settled against derivative assets in accordance with our master netting agreements.

Offsetting of Liabilities

	As of December 31, 2019						
				Gross Amounts Not Offset in the Consolidated Balance Sheets, but Have Legal Rights to Offset			
	Gross Amounts of Recognized Liabilities	Gross Amounts Offset in the Consolidated Balance Sheets	Net Presented in the Consolidated Balance Sheets	Financial Instruments	Cash Collateral Pledged	Non-Cash Collateral Pledged	Net Liabilities
Derivatives	$ 403	$ (21)	$ 382	$ (88) [2]	$ 0	$ 0	$ 294

	As of December 31, 2020						
				Gross Amounts Not Offset in the Consolidated Balance Sheets, but Have Legal Rights to Offset			
	Gross Amounts of Recognized Liabilities	Gross Amounts Offset in the Consolidated Balance Sheets	Net Presented in the Consolidated Balance Sheets	Financial Instruments	Cash Collateral Pledged	Non-Cash Collateral Pledged	Net Liabilities
Derivatives	$ 1,554	$ (32)	$ 1,522	$ (295) [2]	$ (1)	$ (943)	$ 283

[2] The balances as of December 31, 2019 and 2020 were related to derivative assets which are allowed to be net settled against derivative liabilities in accordance with our master netting agreements.

Note 4. Leases

We have entered into operating and finance lease agreements primarily for data centers, land and offices throughout the world with lease periods expiring between 2021 and 2063.

Components of operating lease expense were as follows (in millions):

	Year Ended December 31,	
	2019	2020
Operating lease cost	$ 1,820	$ 2,267
Variable lease cost	541	619
Total operating lease cost	$ 2,361	$ 2,886

Supplemental information related to operating leases is as follows (in millions):

	Year Ended December 31,	
	2019	2020
Cash payments for operating leases	$ 1,661	$ 2,004
New operating lease assets obtained in exchange for operating lease liabilities	$ 4,391	$ 2,765

As of December 31, 2020, our operating leases had a weighted average remaining lease term of 9 years and a weighted average discount rate of 2.6%. Future lease payments under operating leases as of December 31, 2020 were as follows (in millions):

2021	$ 2,198
2022	2,170
2023	1,995
2024	1,738
2025	1,389
Thereafter	5,601
Total future lease payments	15,091
Less imputed interest	(2,251)
Total lease liability balance	$ 12,840

As of December 31, 2020, we have entered into leases that have not yet commenced with future lease payments of $8.0 billion, excluding purchase options, that are not yet recorded on our Consolidated Balance Sheets. These leases will commence between 2021 and 2026 with non-cancelable lease terms of 1 to 25 years.

Note 5. Variable Interest Entities

Consolidated VIEs

We consolidate VIEs in which we hold a variable interest and are the primary beneficiary. The results of operations and financial position of these VIEs are included in our consolidated financial statements.

For certain consolidated VIEs, their assets are not available to us and their creditors do not have recourse to us. As of December 31, 2019 and 2020, assets that can only be used to settle obligations of these VIEs were $3.1 billion and $5.7 billion, respectively, and the liabilities for which creditors only have recourse to the VIEs were $1.2 billion and $2.3 billion, respectively.

Total noncontrolling interests ("NCI"), including redeemable noncontrolling interests ("RNCI"), in our consolidated subsidiaries increased from $1.2 billion to $3.9 billion from December 31, 2019 to December 31, 2020, primarily due to external investments in Waymo. NCI and RNCI are included within additional paid-in capital. Net loss attributable to noncontrolling interests was not material for any period presented and is included within other income (expense), net.

Waymo

Waymo is an autonomous driving technology development company with a mission to make it safe and easy for people and things to get where they're going. In the first half of 2020, Waymo completed an externally led investment round raising in total $3.2 billion, which includes investment from Alphabet. No gain or loss was recognized. The investments related to external parties were accounted for as equity transactions and resulted in recognition of noncontrolling interests.

Unconsolidated VIEs

We have investments in some VIEs in which we are not the primary beneficiary. These VIEs include private companies that are primarily early stage companies and certain renewable energy entities in which activities involve power generation using renewable sources.

We have determined that the governance structures of these entities do not allow us to direct the activities that would significantly affect their economic performance. Therefore, we are not the primary beneficiary, and the results of operations and financial position of these VIEs are not included in our consolidated financial statements. We account for these investments as non-marketable equity investments or equity method investments.

VIEs are generally based on the current carrying value of the investments and any future funding commitments. We have determined that the single source of our exposure to these VIEs is our capital investments in them. The carrying value and maximum exposure of these unconsolidated VIEs were not material as of December 31, 2019 and 2020.

Note 6. Debt

Short-Term Debt

We have a debt financing program of up to $5.0 billion through the issuance of commercial paper. Net proceeds from this program are used for general corporate purposes. We had no commercial paper outstanding as of December 31, 2019 and 2020.

Our short-term debt balance also includes the current portion of certain long-term debt.

Long-Term Debt

In August 2020, Alphabet issued $10.0 billion of fixed-rate senior unsecured notes in six tranches (collectively, "2020 Notes"): $1.0 billion due in 2025, $1.0 billion due in 2027, $2.25 billion due in 2030, $1.25 billion due in 2040, $2.5 billion due in 2050 and $2.0 billion due in 2060. The 2020 Notes had a weighted average duration of 21.5 years and weighted average coupon rate of 1.57%. Of the total issuance, $5.75 billion was designated as Sustainability Bonds, the net proceeds of which are used to fund environmentally and socially responsible projects in the following eight areas: energy efficiency, clean energy, green buildings, clean transportation, circular economy and design, affordable housing, commitment to racial equity, and support for small businesses and COVID-19 crisis response. The remaining net proceeds are used for general corporate purposes.

The total outstanding debt is summarized below (in millions, except percentages):

	Maturity	Coupon Rate	Effective Interest Rate	As of December 31, 2019	As of December 31, 2020
Debt					
2011-2016 Notes Issuances	2021 - 2026	2.00% - 3.63%	2.23% - 3.73%	$ 4,000	$ 4,000
2020 Notes Issuance	2025 - 2060	0.45% - 2.25%	0.57% - 2.33%	0	10,000
Future finance lease payments, net[1]				711	1,201
Total debt				4,711	15,201
Unamortized discount and debt issuance costs				(42)	(169)
Less: Current portion of Notes[2]				0	(999)
Less: Current portion future finance lease payments, net[1][2]				(115)	(101)
Total long-term debt				$ 4,554	$ 13,932

(1) Net of imputed interest.
(2) Total current portion of long-term debt is included within other accrued expenses and current liabilities. See Note 7.

The notes in the table above are comprised of fixed-rate senior unsecured obligations and generally rank equally with each other. We may redeem the notes at any time in whole or in part at specified redemption prices. The effective interest rates are based on proceeds received with interest payable semi-annually.

The total estimated fair value of the outstanding notes, including the current portion, was approximately $4.1 billion and $14.0 billion as of December 31, 2019 and December 31, 2020, respectively. The fair value was determined based on observable market prices of identical instruments in less active markets and is categorized accordingly as Level 2 in the fair value hierarchy.

As of December 31, 2020, the aggregate future principal payments for long-term debt, including finance lease liabilities, for each of the next five years and thereafter are as follows (in millions):

2021	$ 1,104
2022	86
2023	86
2024	1,087
2025	1,088
Thereafter	11,868
Total	$ 15,319

Credit Facility

As of December 31, 2020, we have $4.0 billion of revolving credit facilities which expire in July 2023. The interest rate for the credit facilities is determined based on a formula using certain market rates. No amounts were outstanding under the credit facilities as of December 31, 2019 and 2020.

Note 7. Supplemental Financial Statement Information

Property and Equipment, Net

Property and equipment, net, consisted of the following (in millions):

	As of December 31, 2019	As of December 31, 2020
Land and buildings	$ 39,865	$ 49,732
Information technology assets	36,840	45,906
Construction in progress	21,036	23,111
Leasehold improvements	6,310	7,516
Furniture and fixtures	156	197
Property and equipment, gross	104,207	126,462
Less: accumulated depreciation	(30,561)	(41,713)
Property and equipment, net	$ 73,646	$ 84,749

Accrued expenses and other current liabilities

Accrued expenses and other current liabilities consisted of the following (in millions):

	As of December 31, 2019	As of December 31, 2020
European Commission fines[(1)]	$ 9,405	$ 10,409
Accrued customer liabilities	2,245	3,118
Accrued purchases of property and equipment	2,411	2,197
Current operating lease liabilities	1,199	1,694
Other accrued expenses and current liabilities	7,807	11,213
Accrued expenses and other current liabilities	$ 23,067	$ 28,631

(1) Includes the effects of foreign exchange and interest. See Note 10 for further details.

Accumulated Other Comprehensive Income (Loss)

The components of AOCI, net of tax, were as follows (in millions):

	Foreign Currency Translation Adjustments	Unrealized Gains (Losses) on Available-for-Sale Investments	Unrealized Gains (Losses) on Cash Flow Hedges	Total
Balance as of December 31, 2017	$ (1,103)	$ 233	$ (122)	$ (992)
Cumulative effect of accounting change	0	(98)	0	(98)
Other comprehensive income (loss) before reclassifications	(781)	88	264	(429)
Amounts excluded from the assessment of hedge effectiveness recorded in AOCI	0	0	26	26
Amounts reclassified from AOCI	0	(911)	98	(813)
Other comprehensive income (loss)	(781)	(823)	388	(1,216)
Balance as of December 31, 2018	(1,884)	(688)	266	(2,306)
Cumulative effect of accounting change	0	0	(30)	(30)
Other comprehensive income (loss) before reclassifications	(119)	1,611	36	1,528
Amounts excluded from the assessment of hedge effectiveness recorded in AOCI	0	0	(14)	(14)
Amounts reclassified from AOCI	0	(111)	(299)	(410)
Other comprehensive income (loss)	(119)	1,500	(277)	1,104
Balance as of December 31, 2019	(2,003)	812	(41)	(1,232)
Other comprehensive income (loss) before reclassifications	1,139	1,313	79	2,531
Amounts excluded from the assessment of hedge effectiveness recorded in AOCI	0	0	(37)	(37)
Amounts reclassified from AOCI	0	(513)	(116)	(629)
Other comprehensive income (loss)	1,139	800	(74)	1,865
Balance as of December 31, 2020	$ (864)	$ 1,612	$ (115)	$ 633

The effects on net income of amounts reclassified from AOCI were as follows (in millions):

		Gains (Losses) Reclassified from AOCI to the Consolidated Statements of Income		
		Year Ended December 31,		
AOCI Components	Location	2018	2019	2020
Unrealized gains (losses) on available-for-sale investments				
	Other income (expense), net	$ 1,190	$ 149	$ 650
	Benefit (provision) for income taxes	(279)	(38)	(137)
	Net of tax	911	111	513
Unrealized gains (losses) on cash flow hedges				
Foreign exchange contracts	Revenue	(139)	367	144
Interest rate contracts	Other income (expense), net	6	6	6
	Benefit (provision) for income taxes	35	(74)	(34)
	Net of tax	(98)	299	116
Total amount reclassified, net of tax		$ 813	$ 410	$ 629

Other Income (Expense), Net

The components of other income (expense), net, were as follows (in millions):

	Year Ended December 31,		
	2018	2019	2020
Interest income	$ 1,878	$ 2,427	$ 1,865
Interest expense[1]	(114)	(100)	(135)
Foreign currency exchange gain (loss), net[2]	(80)	103	(344)
Gain (loss) on debt securities, net[3]	1,190	149	725
Gain (loss) on equity securities, net	5,460	2,649	5,592
Performance fees	(1,203)	(326)	(609)
Income (loss) and impairment from equity method investments, net	(120)	390	401
Other[4]	378	102	(637)
Other income (expense), net	$ 7,389	$ 5,394	$ 6,858

(1) Interest expense is net of interest capitalized of $92 million, $167 million, and $218 million for the years ended December 31, 2018, 2019, and 2020, respectively.

(2) Our foreign currency exchange gain (loss), net, is primarily related to the forward points for our foreign currency hedging contracts and foreign exchange transaction gains and losses from the conversion of the transaction currency to the functional currency, offset by the foreign currency hedging contracts' losses and gains.

(3) During the year ended December 31, 2018, the terms of a non-marketable debt security were modified resulting in an unrealized $1.3 billion gain.

(4) During the year ended December 31, 2020, we entered into derivatives that hedged the changes in fair value of certain marketable equity securities, which resulted in a $902 million loss. The offsetting recognized gains on the marketable equity securities are reflected in Gain (loss) on equity securities, net.

Note 8. Acquisitions

2020 Acquisitions

During the year ended December 31, 2020, we completed acquisitions and purchases of intangible assets for total consideration of approximately $744 million, net of cash acquired. In aggregate, $248 million was attributed to intangible assets, $446 million to goodwill and $50 million to net assets acquired. These acquisitions generally enhance the breadth and depth of our offerings and expand our expertise in engineering and other functional areas.

Pro forma results of operations for these acquisitions have not been presented because they are not material to the consolidated results of operations, either individually or in the aggregate.

For all intangible assets acquired and purchased during the year ended December 31, 2020, patents and developed technology have a weighted-average useful life of 4.1 years, customer relationships have a weighted-average useful life of 4.7 years, and trade names and other have a weighted-average useful life of 4.6 years.

Acquisition of Fitbit

In January 2021, we closed the acquisition of Fitbit, a leading wearables brand for $2.1 billion.

Note 9. Goodwill and Other Intangible Assets

Goodwill

Changes in the carrying amount of goodwill for the years ended December 31, 2019 and 2020 were as follows (in millions):

	Google	Google Services	Google Cloud	Other Bets	Total
Balance as of December 31, 2018	$ 17,521	$ 0	$ 0	$ 367	$ 17,888
Acquisitions	2,353	0	0	475	2,828
Transfers	9	0	0	(9)	0
Foreign currency translation and other adjustments	38	0	0	(130)	(92)
Balance as of December 31, 2019	19,921	0	0	703	20,624
Acquisitions	204	0	0	0	204
Foreign currency translation and other adjustments	46	0	0	(4)	42
Allocation in the fourth quarter of 2020[1]	(20,171)	18,408	1,763	0	0
Acquisitions	0	53	189	0	242
Foreign currency translation and other adjustments	0	56	5	2	63
Balance as of December 31, 2020	$ 0	$ 18,517	$ 1,957	$ 701	$ 21,175

[1] Represents reallocation of goodwill as a result of our change in segments in the fourth quarter of 2020. See Note 15 for further details

Other Intangible Assets

Information regarding purchased intangible assets were as follows (in millions):

	As of December 31, 2019		
	Gross Carrying Amount	Accumulated Amortization	Net Carrying Amount
Patents and developed technology	$ 4,972	$ 3,570	$ 1,402
Customer relationships	254	30	224
Trade names and other	703	350	353
Total	$ 5,929	$ 3,950	$ 1,979

	As of December 31, 2020		
	Gross Carrying Amount	Accumulated Amortization	Net Carrying Value
Patents and developed technology	$ 4,639	$ 3,649	$ 990
Customer relationships	266	49	217
Trade names and other	699	461	238
Total	$ 5,604	$ 4,159	$ 1,445

Patents and developed technology, customer relationships, and trade names and other have weighted-average remaining useful lives of 1.6 years, 4.9 years, and 2.1 years, respectively.

Amortization expense relating to purchased intangible assets was $865 million, $795 million, and $774 million for the years ended December 31, 2018, 2019, and 2020, respectively.

As of December 31, 2020, expected amortization expense relating to purchased intangible assets for each of the next five years and thereafter is as follows (in millions):

2021	$ 719
2022	375
2023	104
2024	78
2025	53
Thereafter	116
	$ 1,445

Note 10. Commitments and Contingencies

Purchase Obligations

As of December 31, 2020, we had $10.7 billion of other non-cancelable contractual obligations, primarily related to data center operations and build-outs, digital media content licensing, information technology assets and purchases of inventory.

Indemnifications

In the normal course of business, to facilitate transactions in our services and products, we indemnify certain parties, including advertisers, Google Network Members, customers of Google Cloud offerings, and lessors with respect to certain matters. We have agreed to hold certain parties harmless against losses arising from a breach of representations or covenants, or out of intellectual property infringement or other claims made against certain parties. Several of these agreements limit the time within which an indemnification claim can be made and the amount of the claim. In addition, we have entered into indemnification agreements with our officers and directors, and our bylaws contain similar indemnification obligations to our agents.

It is not possible to make a reasonable estimate of the maximum potential amount under these indemnification agreements due to the unique facts and circumstances involved in each particular agreement. Additionally, we have a limited history of prior indemnification claims and the payments we have made under such agreements have not had a material adverse effect on our results of operations, cash flows, or financial position. However, to the extent that valid indemnification claims arise in the future, future payments by us could be significant and could have a material adverse effect on our results of operations or cash flows in a particular period.

As of December 31, 2020, we did not have any material indemnification claims that were probable or reasonably possible.

Legal Matters

Antitrust Investigations

On November 30, 2010, the EC's Directorate General for Competition opened an investigation into various antitrust-related complaints against us.

On June 27, 2017, the EC announced its decision that certain actions taken by Google regarding its display and ranking of shopping search results and ads infringed European competition law. The EC decision imposed a €2.4 billion ($2.7 billion as of June 27, 2017) fine. On September 11, 2017, we appealed the EC decision and on September 27, 2017, we implemented product changes to bring shopping ads into compliance with the EC's decision. We recognized a charge of $2.7 billion for the fine in the second quarter of 2017.

On July 18, 2018, the EC announced its decision that certain provisions in Google’s Android-related distribution agreements infringed European competition law. The EC decision imposed a €4.3 billion ($5.1 billion as of June 30, 2018) fine and directed the termination of the conduct at issue. On October 9, 2018, we appealed the EC decision. On October 29, 2018, we implemented changes to certain of our Android distribution practices. We recognized a charge of $5.1 billion for the fine in the second quarter of 2018.

On March 20, 2019, the EC announced its decision that certain contractual provisions in agreements that Google had with AdSense for Search partners infringed European competition law. The EC decision imposed a fine of €1.5 billion ($1.7 billion as of March 20, 2019) and directed actions related to AdSense for Search partners' agreements, which we implemented prior to the decision. On June 4, 2019, we appealed the EC decision. We recognized a charge of $1.7 billion for the fine in the first quarter of 2019.

While each EC decision is under appeal, we included the fines in accrued expenses and other current liabilities on our Consolidated Balance Sheets as we provided bank guarantees (in lieu of a cash payment) for the fines.

From time to time we are subject to formal and informal inquiries and investigations on competition matters by regulatory authorities in the United States, Europe, and other jurisdictions. For example, in August 2019, we began receiving civil investigative demands from the U.S. Department of Justice ("DOJ") requesting information and documents relating to our prior antitrust investigations and certain aspects of our business. The DOJ and a number of state Attorneys General filed a lawsuit on October 20, 2020 alleging that Google violated U.S. antitrust laws relating to Search and Search advertising. Separately, on December 16, 2020, a number of state Attorneys General filed an antitrust complaint against Google in the United States District Court for the Eastern District of Texas, alleging that Google violated U.S. antitrust laws as well as state deceptive trade laws relating to its advertising technology. We believe these complaints are without merit and will defend ourselves vigorously. The DOJ and state Attorneys General continue their investigations into certain aspects of our business. We continue to cooperate with federal and state regulators in the United States, and other regulators around the world.

Patent and Intellectual Property Claims

We have had patent, copyright, trade secret, and trademark infringement lawsuits filed against us claiming that certain of our products, services, and technologies infringe others' intellectual property rights. Adverse results in these lawsuits may include awards of substantial monetary damages, costly royalty or licensing agreements, or orders preventing us from offering certain features, functionalities, products, or services. As a result, we may have to change our business practices, and develop non-infringing products or technologies, which could result in a loss of revenues for us and otherwise harm our business. In addition, the U.S. International Trade Commission ("ITC") has increasingly become an important forum to litigate intellectual property disputes because an ultimate loss in an ITC action can result in a prohibition on importing infringing products into the U.S. Because the U.S. is an important market, a prohibition on importation could have an adverse effect on us, including preventing us from importing many important products into the U.S. or necessitating workarounds that may limit certain features of our products.

Furthermore, many of our agreements with our customers and partners require us to indemnify them against certain intellectual property infringement claims, which would increase our costs as a result of defending such claims, and may require that we pay significant damages if there were an adverse ruling in any such claims. In addition, our customers and partners may discontinue the use of our products, services, and technologies, as a result of injunctions or otherwise, which could result in loss of revenues and adversely affect our business.

In 2010, Oracle America, Inc. ("Oracle") brought a copyright lawsuit against Google in the Northern District of California, alleging that Google's Android operating system infringes Oracle's copyrights related to certain Java application programming interfaces. After trial, final judgment was entered by the district court in favor of Google on June 8, 2016, and the court decided post-trial motions in favor of Google. Oracle appealed and on March 27, 2018, the appeals court reversed and remanded the case for a trial on damages. On May 29, 2018, we filed a petition for a rehearing at the Federal Circuit, and on August 28, 2018, the Federal Circuit denied the petition. On January 24, 2019, we filed a petition to the Supreme Court of the United States to review this case. On April 29, 2019, the Supreme Court requested the views of the Solicitor General regarding our petition. On September 27, 2019, the Solicitor General recommended denying our petition, and we provided our response on October 16, 2019. On November 15, 2019, the Supreme Court granted our petition and made a decision to review the case. The Supreme Court heard oral arguments in our case on October 7, 2020. If the Supreme Court does not rule in our favor, the case will be remanded to the district court for further determination of the remaining issues in the case, including damages, if any. We believe this lawsuit is without merit and are defending ourselves vigorously. Given the nature of this case, we are unable to estimate the reasonably possible loss or range of loss, if any, arising from this matter.

Other

We are also regularly subject to claims, suits, regulatory and government investigations, and other proceedings involving competition, intellectual property, privacy, tax and related compliance, labor and employment, commercial disputes, content generated by our users, goods and services offered by advertisers or publishers using our platforms, personal injury, consumer protection, and other matters. Such claims, suits, regulatory and government investigations, and other proceedings could result in substantial fines and penalties, injunctive relief, ongoing auditing and monitoring obligations, changes to our products and services, alterations to our business models and operations, and collateral related civil litigation or other adverse consequences, all of which could harm our business, reputation, financial condition, and operating results.

Certain of these outstanding matters include speculative, substantial or indeterminate monetary amounts. We record a liability when we believe that it is probable that a loss has been incurred and the amount can be reasonably estimated. If we determine that a loss is reasonably possible and the loss or range of loss can be estimated, we

disclose the reasonably possible loss. We evaluate developments in our legal matters that could affect the amount of liability that has been previously accrued, and the matters and related reasonably possible losses disclosed, and make adjustments as appropriate. Significant judgment is required to determine both likelihood of there being and the estimated amount of a loss related to such matters.

With respect to our outstanding matters, based on our current knowledge, we believe that the amount or range of reasonably possible loss will not, either individually or in aggregate, have a material adverse effect on our business, consolidated financial position, results of operations, or cash flows. However, the outcome of such matters is inherently unpredictable and subject to significant uncertainties.

We expense legal fees in the period in which they are incurred.

Non-Income Taxes

We are under audit by various domestic and foreign tax authorities with regards to non-income tax matters. The subject matter of non-income tax audits primarily arises from disputes on the tax treatment and tax rate applied to the sale of our products and services in these jurisdictions and the tax treatment of certain employee benefits. We accrue non-income taxes that may result from examinations by, or any negotiated agreements with, these tax authorities when a loss is probable and reasonably estimable. If we determine that a loss is reasonably possible and the loss or range of loss can be estimated, we disclose the reasonably possible loss. Due to the inherent complexity and uncertainty of these matters and judicial process in certain jurisdictions, the final outcome may be materially different from our expectations.

For information regarding income tax contingencies, see Note 14.

Note 11. Stockholders' Equity

Convertible Preferred Stock

Our Board of Directors has authorized 100 million shares of convertible preferred stock, $0.001 par value, issuable in series. As of December 31, 2019 and 2020, no shares were issued or outstanding.

Class A and Class B Common Stock and Class C Capital Stock

Our Board of Directors has authorized three classes of stock, Class A and Class B common stock, and Class C capital stock. The rights of the holders of each class of our common and capital stock are identical, except with respect to voting. Each share of Class A common stock is entitled to one vote per share. Each share of Class B common stock is entitled to 10 votes per share. Class C capital stock has no voting rights, except as required by applicable law. Shares of Class B common stock may be converted at any time at the option of the stockholder and automatically convert upon sale or transfer to Class A common stock.

Share Repurchases

In July 2020, the Board of Directors of Alphabet authorized the company to repurchase up to an additional $28.0 billion of its Class C capital stock. The repurchases are being executed from time to time, subject to general business and market conditions and other investment opportunities, through open market purchases or privately negotiated transactions, including through Rule 10b5-1 plans. The repurchase program does not have an expiration date.

During the years ended December 31, 2019 and 2020, we repurchased and subsequently retired 15.3 million and 21.5 million shares of Alphabet Class C capital stock for an aggregate amount of $18.4 billion and $31.1 billion, respectively.

Note 12. Net Income Per Share

We compute net income per share of Class A and Class B common stock and Class C capital stock using the two-class method. Basic net income per share is computed using the weighted-average number of shares outstanding during the period. Diluted net income per share is computed using the weighted-average number of shares and the effect of potentially dilutive securities outstanding during the period. Potentially dilutive securities consist of restricted stock units and other contingently issuable shares. The dilutive effect of outstanding restricted stock units and other contingently issuable shares is reflected in diluted earnings per share by application of the treasury stock method. The computation of the diluted net income per share of Class A common stock assumes the conversion of Class B common stock, while the diluted net income per share of Class B common stock does not assume the conversion of those shares.

The rights, including the liquidation and dividend rights, of the holders of our Class A and Class B common stock and Class C capital stock are identical, except with respect to voting. Furthermore, there are a number of

safeguards built into our certificate of incorporation, as well as Delaware law, which preclude our Board of Directors from declaring or paying unequal per share dividends on our Class A and Class B common stock and Class C capital stock. Specifically, Delaware law provides that amendments to our certificate of incorporation which would have the effect of adversely altering the rights, powers, or preferences of a given class of stock must be approved by the class of stock adversely affected by the proposed amendment. In addition, our certificate of incorporation provides that before any such amendment may be put to a stockholder vote, it must be approved by the unanimous consent of our Board of Directors. As a result, the undistributed earnings for each year are allocated based on the contractual participation rights of the Class A and Class B common shares and Class C capital stock as if the earnings for the year had been distributed. As the liquidation and dividend rights are identical, the undistributed earnings are allocated on a proportionate basis.

In the years ended December 31, 2018, 2019 and 2020, the net income per share amounts are the same for Class A and Class B common stock and Class C capital stock because the holders of each class are entitled to equal per share dividends or distributions in liquidation in accordance with the Amended and Restated Certificate of Incorporation of Alphabet Inc.

The following tables set forth the computation of basic and diluted net income per share of Class A and Class B common stock and Class C capital stock (in millions, except share amounts which are reflected in thousands and per share amounts):

	Year Ended December 31, 2018		
	Class A	Class B	Class C
Basic net income per share:			
Numerator			
Allocation of undistributed earnings	$ 13,200	$ 2,072	$ 15,464
Denominator			
Number of shares used in per share computation	298,548	46,864	349,728
Basic net income per share	$ 44.22	$ 44.22	$ 44.22
Diluted net income per share:			
Numerator			
Allocation of undistributed earnings for basic computation	$ 13,200	$ 2,072	$ 15,464
Reallocation of undistributed earnings as a result of conversion of Class B to Class A shares	2,072	0	0
Reallocation of undistributed earnings	(146)	(24)	146
Allocation of undistributed earnings	$ 15,126	$ 2,048	$ 15,610
Denominator			
Number of shares used in basic computation	298,548	46,864	349,728
Weighted-average effect of dilutive securities			
Add:			
Conversion of Class B to Class A common shares outstanding	46,864	0	0
Restricted stock units and other contingently issuable shares	689	0	7,456
Number of shares used in per share computation	346,101	46,864	357,184
Diluted net income per share	$ 43.70	$ 43.70	$ 43.70

	Year Ended December 31, 2019		
	Class A	Class B	Class C
Basic net income per share:			
Numerator			
Allocation of undistributed earnings	$ 14,846	$ 2,307	$ 17,190
Denominator			
Number of shares used in per share computation	299,402	46,527	346,667
Basic net income per share	$ 49.59	$ 49.59	$ 49.59
Diluted net income per share:			
Numerator			
Allocation of undistributed earnings for basic computation	$ 14,846	$ 2,307	$ 17,190
Reallocation of undistributed earnings as a result of conversion of Class B to Class A shares	2,307	0	0
Reallocation of undistributed earnings	(126)	(20)	126
Allocation of undistributed earnings	$ 17,027	$ 2,287	$ 17,316
Denominator			
Number of shares used in basic computation	299,402	46,527	346,667
Weighted-average effect of dilutive securities			
Add:			
Conversion of Class B to Class A common shares outstanding	46,527	0	0
Restricted stock units and other contingently issuable shares	413	0	5,547
Number of shares used in per share computation	346,342	46,527	352,214
Diluted net income per share	$ 49.16	$ 49.16	$ 49.16

	Year Ended December 31, 2020		
	Class A	Class B	Class C
Basic net income per share:			
Numerator			
Allocation of undistributed earnings	$ 17,733	$ 2,732	$ 19,804
Denominator			
Number of shares used in per share computation	299,815	46,182	334,819
Basic net income per share	$ 59.15	$ 59.15	$ 59.15
Diluted net income per share:			
Numerator			
Allocation of undistributed earnings for basic computation	$ 17,733	$ 2,732	$ 19,804
Reallocation of undistributed earnings as a result of conversion of Class B to Class A shares	2,732	0	0
Reallocation of undistributed earnings	(180)	(25)	180
Allocation of undistributed earnings	$ 20,285	$ 2,707	$ 19,984
Denominator			
Number of shares used in basic computation	299,815	46,182	334,819
Weighted-average effect of dilutive securities			
Add:			
Conversion of Class B to Class A common shares outstanding	46,182	0	0
Restricted stock units and other contingently issuable shares	87	0	6,125
Number of shares used in per share computation	346,084	46,182	340,944
Diluted net income per share	$ 58.61	$ 58.61	$ 58.61

Note 13. Compensation Plans

Stock Plans

Our stock plans include the Alphabet 2012 Stock Plan and Other Bet stock-based plans. Under our stock plans, RSUs and other types of awards may be granted. An RSU award is an agreement to issue shares of our publicly traded stock at the time the award vests. RSUs granted to participants under the Alphabet 2012 Stock Plan generally vest over four years contingent upon employment or service with us on the vesting date.

As of December 31, 2020, there were 38,777,813 shares of stock reserved for future issuance under our Alphabet 2012 Stock Plan.

Stock-Based Compensation

For the years ended December 31, 2018, 2019 and 2020, total stock-based compensation expense was $10.0 billion, $11.7 billion and $13.4 billion, including amounts associated with awards we expect to settle in Alphabet stock of $9.4 billion, $10.8 billion, and $12.8 billion, respectively.

For the years ended December 31, 2018, 2019 and 2020, we recognized tax benefits on total stock-based compensation expense, which are reflected in the provision for income taxes in the Consolidated Statements of Income, of $1.5 billion, $1.8 billion, and $2.7 billion, respectively.

For the years ended December 31, 2018, 2019 and 2020, tax benefit realized related to awards vested or exercised during the period was $2.1 billion, $2.2 billion and $3.6 billion, respectively. These amounts do not include the indirect effects of stock-based awards, which primarily relate to the research and development tax credit.

Stock-Based Award Activities

The following table summarizes the activities for our unvested Alphabet RSUs for the year ended December 31, 2020:

	Unvested Restricted Stock Units	
	Number of Shares	Weighted-Average Grant-Date Fair Value
Unvested as of December 31, 2019	19,394,236	$ 1,055.22
Granted	12,647,562	1,407.97
Vested	(11,643,670)	1,089.31
Forfeited/canceled	(1,109,335)	1,160.01
Unvested as of December 31, 2020	19,288,793	$ 1,262.13

The weighted-average grant-date fair value of RSUs granted during the years ended December 31, 2018 and 2019, was $1,095.89 and $1,092.36, respectively. Total fair value of RSUs, as of their respective vesting dates, during the years ended December 31, 2018, 2019, and 2020 were $14.1 billion, $15.2 billion, and $17.8 billion, respectively.

As of December 31, 2020, there was $22.8 billion of unrecognized compensation cost related to unvested employee RSUs. This amount is expected to be recognized over a weighted-average period of 2.6 years.

401(k) Plans

We have two 401(k) Savings Plans that qualify as deferred salary arrangements under Section 401(k) of the Internal Revenue Code. Under these 401(k) Plans, matching contributions are based upon the amount of the employees' contributions subject to certain limitations. We recognized expense of approximately $691 million, $724 million, and $855 million for the years ended December 31, 2018, 2019, and 2020, respectively.

Note 14. Income Taxes

Income from continuing operations before income taxes consists of the following (in millions):

	Year Ended December 31,		
	2018	2019	2020
Domestic operations	$ 15,779	$ 16,426	$ 37,576
Foreign operations	19,134	23,199	10,506
Total	$ 34,913	$ 39,625	$ 48,082

The provision for income taxes consists of the following (in millions):

	Year Ended December 31,		
	2018	2019	2020
Current:			
Federal and state	$ 2,153	$ 2,424	$ 4,789
Foreign	1,251	2,713	1,687
Total	3,404	5,137	6,476
Deferred:			
Federal and state	907	286	1,552
Foreign	(134)	(141)	(215)
Total	773	145	1,337
Provision for income taxes	$ 4,177	$ 5,282	$ 7,813

The reconciliation of federal statutory income tax rate to our effective income tax rate is as follows:

	Year Ended December 31,		
	2018	2019	2020
U.S. federal statutory tax rate	21.0 %	21.0 %	21.0 %
Foreign income taxed at different rates	(4.4)	(4.9)	(0.3)
Foreign-derived intangible income deduction	(0.5)	(0.7)	(3.0)
Stock-based compensation expense	(2.2)	(0.7)	(1.7)
Federal research credit	(2.4)	(2.5)	(2.3)
Impact of the Tax Cuts and Jobs Act	(1.3)	(0.6)	0.0
European Commission fines	3.1	1.0	0.0
Deferred tax asset valuation allowance	(2.0)	0.0	1.4
State and local income taxes	(0.4)	1.1	1.1
Other adjustments	1.1	(0.4)	0.0
Effective tax rate	12.0 %	13.3 %	16.2 %

Our effective tax rate for 2018 and 2019 was affected significantly by earnings realized in foreign jurisdictions with statutory tax rates lower than the federal statutory tax rate because substantially all of the income from foreign operations was earned by an Irish subsidiary. As of December 31, 2019, we have simplified our corporate legal entity structure and now license intellectual property from the U.S. that was previously licensed from Bermuda resulting in an increase in the portion of our income earned in the U.S.

On July 27, 2015, the United States Tax Court, in an opinion in Altera Corp. v. Commissioner, invalidated the portion of the Treasury regulations issued under IRC Section 482 requiring related-party participants in a cost sharing arrangement to share stock-based compensation costs. The U.S. Tax Court issued the final decision on December 28, 2015. As a result of that decision, we recorded a tax benefit related to the anticipated reimbursement of cost share payment for previously shared stock-based compensation costs.

On June 7, 2019, the United States Court of Appeals for the Ninth Circuit overturned the 2015 Tax Court decision in Altera Corp. v. Commissioner, and upheld the portion of the Treasury regulations issued under IRC Section 482 requiring related-party participants in a cost sharing arrangement to share stock-based compensation costs. As a result of the Ninth Circuit court decision, our cumulative net tax benefit of $418 million related to previously shared stock-based compensation costs was reversed in the year ended December 31, 2019.

In 2020, there was an increase in valuation allowance for net deferred tax assets that are not likely to be realized relating to certain of our Other Bets.

Deferred Income Taxes

Deferred income taxes reflect the net effects of temporary differences between the carrying amounts of assets and liabilities for financial reporting purposes and the amounts used for income tax purposes. Significant components of our deferred tax assets and liabilities are as follows (in millions):

	As of December 31,	
	2019	2020
Deferred tax assets:		
Stock-based compensation expense	$ 421	$ 518
Accrued employee benefits	463	580
Accruals and reserves not currently deductible	1,047	1,049
Tax credits	3,264	3,723
Net operating losses	771	1,085
Operating leases	1,876	2,620
Intangible assets	164	1,525
Other	226	463
Total deferred tax assets	8,232	11,563
Valuation allowance	(3,502)	(4,823)
Total deferred tax assets net of valuation allowance	4,730	6,740
Deferred tax liabilities:		
Property and equipment, net	(1,798)	(3,382)
Renewable energy investments	(466)	(415)
Foreign Earnings	(373)	(383)
Net investment gains	(1,074)	(1,901)
Operating leases	(1,619)	(2,354)
Other	(380)	(782)
Total deferred tax liabilities	(5,710)	(9,217)
Net deferred tax assets (liabilities)	$ (980)	$ (2,477)

As of December 31, 2020, our federal, state and foreign net operating loss carryforwards for income tax purposes were approximately $3.1 billion, $3.1 billion, and $1.4 billion respectively. If not utilized, the federal net operating loss carryforwards will begin to expire in 2023, foreign net operating loss carryforwards will begin to expire in 2024 and the state net operating loss carryforwards will begin to expire in 2028. It is more likely than not that certain net operating loss carryforwards will not be realized; therefore, we have recorded a valuation allowance against them. The net operating loss carryforwards are subject to various annual limitations under the tax laws of the different jurisdictions.

As of December 31, 2020, our California research and development credit carryforwards for income tax purposes were approximately $3.7 billion that can be carried over indefinitely. We believe the state tax credit is not likely to be realized.

As of December 31, 2020, we maintained a valuation allowance with respect to California deferred tax assets, certain federal net operating losses, certain state tax credits, net deferred tax assets relating to certain of our Other Bets, and certain foreign net operating losses that we believe are not likely to be realized. We continue to reassess the remaining valuation allowance quarterly and if future evidence allows for a partial or full release of the valuation allowance, a tax benefit will be recorded accordingly.

Uncertain Tax Positions

The following table summarizes the activity related to our gross unrecognized tax benefits (in millions):

	Year Ended December 31,		
	2018	2019	2020
Beginning gross unrecognized tax benefits	$ 4,696	$ 4,652	$ 3,377
Increases related to prior year tax positions	321	938	372
Decreases related to prior year tax positions	(623)	(143)	(557)
Decreases related to settlement with tax authorities	(191)	(2,886)	(45)
Increases related to current year tax positions	449	816	690
Ending gross unrecognized tax benefits	$ 4,652	$ 3,377	$ 3,837

The total amount of gross unrecognized tax benefits was $4.7 billion, $3.4 billion, and $3.8 billion as of December 31, 2018, 2019, and 2020, respectively, of which, $2.9 billion, $2.3 billion, and $2.6 billion, if recognized, would affect our effective tax rate, respectively. The decrease in gross unrecognized tax benefits in 2019 was primarily as a result of the resolution of multi-year audits.

As of December 31, 2019 and 2020, we accrued $130 million and $222 million in interest and penalties in provision for income taxes, respectively.

We file income tax returns in the U.S. federal jurisdiction and in many state and foreign jurisdictions, our two major tax jurisdictions are the U.S. federal and Ireland. We are subject to the continuous examination of our income tax returns by the IRS and other tax authorities. The IRS is currently examining our 2016 through 2018 tax returns. We have also received tax assessments in multiple foreign jurisdictions asserting transfer pricing adjustments or permanent establishment. We continue to defend any and all such claims as presented.

The tax years 2011 through 2019 remain subject to examination by the appropriate governmental agencies for Irish tax purposes. There are other ongoing audits in various other jurisdictions that are not material to our financial statements.

We regularly assess the likelihood of adverse outcomes resulting from these examinations to determine the adequacy of our provision for income taxes. We continue to monitor the progress of ongoing discussions with tax authorities and the effect, if any, of the expected expiration of the statute of limitations in various taxing jurisdictions.

We believe that an adequate provision has been made for any adjustments that may result from tax examinations. However, the outcome of tax audits cannot be predicted with certainty. If any issues addressed in our tax audits are resolved in a manner not consistent with management's expectations, we could be required to adjust our provision for income taxes in the period such resolution occurs. Although the timing of resolution, settlement, and closure of audits is not certain, we do not believe it is reasonably possible that our unrecognized tax benefits will materially change in the next 12 months.

Note 15. Information about Segments and Geographic Areas

Beginning in the fourth quarter of 2020, we report our segment results as Google Services, Google Cloud, and Other Bets:

- Google Services includes products and services such as ads, Android, Chrome, hardware, Google Maps, Google Play, Search, and YouTube. Google Services generates revenues primarily from advertising; sales of apps, in-app purchases, digital content products, and hardware; and fees received for subscription-based products such as YouTube Premium and YouTube TV.
- Google Cloud includes Google’s infrastructure and data analytics platforms, collaboration tools, and other services for enterprise customers. Google Cloud generates revenues primarily from fees received for Google Cloud Platform services and Google Workspace (formerly known as G Suite) collaboration tools.
- Other Bets is a combination of multiple operating segments that are not individually material. Revenues from the Other Bets are derived primarily through the sale of internet services as well as licensing and R&D services.

Revenues and certain costs, such as costs associated with content and traffic acquisition, certain engineering, and hardware costs and other operating expenses, are directly attributable to our segments. Due to the integrated nature of Alphabet, other costs and expenses, such as technical infrastructure and office facilities, are managed

centrally at a consolidated level. The associated costs, including depreciation and impairment, are allocated to operating segments as a service cost generally based on usage or headcount.

Unallocated corporate costs primarily include corporate initiatives, corporate shared costs, such as finance and legal, including fines and settlements, as well as costs associated with certain shared research and development activities. Additionally, hedging gains (losses) related to revenue are included in corporate costs.

Our Chief Operating Decision Maker does not evaluate operating segments using asset information.

Information about segments during the periods presented were as follows (in millions). For comparative purposes, amounts in prior periods have been recast:

	Year Ended December 31,		
	2018	2019	2020
Revenues:			
Google Services	$ 130,524	$ 151,825	$ 168,635
Google Cloud	5,838	8,918	13,059
Other Bets	595	659	657
Hedging gains (losses)	(138)	455	176
Total revenues	$ 136,819	$ 161,857	$ 182,527
Operating income (loss):			
Google Services	$ 43,137	$ 48,999	$ 54,606
Google Cloud	(4,348)	(4,645)	(5,607)
Other Bets	(3,358)	(4,824)	(4,476)
Corporate costs, unallocated[(1)]	(7,907)	(5,299)	(3,299)
Total income from operations	$ 27,524	$ 34,231	$ 41,224

(1) Corporate costs, unallocated includes a fine of $5.1 billion for the year ended December 31, 2018 and a fine and legal settlement totaling $2.3 billion for the year ended December 31, 2019.

For revenues by geography, see Note 2.

The following table presents certain of our long-lived assets by geographic area, which includes property and equipment, net and operating lease assets (in millions).

	As of December 31, 2019	As of December 31, 2020
Long-lived assets:		
United States	$ 63,102	$ 69,315
International	21,485	27,645
Total long-lived assets	$ 84,587	$ 96,960

ITEM 9. CHANGES IN AND DISAGREEMENTS WITH ACCOUNTANTS ON ACCOUNTING AND FINANCIAL DISCLOSURE

None.

ITEM 9A. CONTROLS AND PROCEDURES

Evaluation of Disclosure Controls and Procedures

Our management, with the participation of our chief executive officer and chief financial officer, evaluated the effectiveness of our disclosure controls and procedures pursuant to Rule 13a-15 under the Exchange Act, as of the end of the period covered by this Annual Report on Form 10-K.

Based on this evaluation, our chief executive officer and chief financial officer concluded that, as of December 31, 2020, our disclosure controls and procedures are designed at a reasonable assurance level and are effective to provide reasonable assurance that information we are required to disclose in reports that we file or submit under the Exchange Act is recorded, processed, summarized, and reported within the time periods specified in the SEC's rules and forms, and that such information is accumulated and communicated to our management, including our chief executive officer and chief financial officer, as appropriate, to allow timely decisions regarding required disclosure.

Changes in Internal Control over Financial Reporting

We rely extensively on information systems to manage our business and summarize and report operating results. In 2019, we began a multi-year implementation of a new global ERP system, which will replace much of our existing core financial systems. The ERP system is designed to accurately maintain our financial records, enhance the flow of financial information, improve data management and provide timely information to our management team. The implementation is expected to occur in phases over the next several years. The initial phase, which included changes to our general ledger and consolidated financial reporting systems, was completed during the third quarter of 2020. There have been no changes in our internal control over financial reporting that occurred during the quarter ended December 31, 2020 that have materially affected, or are reasonably likely to materially affect, our internal control over financial reporting. However, as the phased implementation of the new ERP system continues, we will change our processes and procedures, which in turn, could result in changes to our internal control over financial reporting. As such changes occur, we will evaluate quarterly whether such changes materially affect our internal control over financial reporting.

As a result of COVID-19, our global workforce continued to operate primarily in a work from home environment for the quarter ended December 31, 2020. While pre-existing controls were not specifically designed to operate in our current work from home operating environment, we believe that our internal controls over financial reporting continue to be effective. We have continued to re-evaluate and refine our financial reporting process to provide reasonable assurance that we could report our financial results accurately and timely.

Management's Report on Internal Control over Financial Reporting

Our management is responsible for establishing and maintaining adequate internal control over financial reporting, as defined in Rule 13a-15(f) of the Exchange Act. Our management conducted an evaluation of the effectiveness of our internal control over financial reporting based on the framework in *Internal Control—Integrated Framework* issued by the Committee of Sponsoring Organizations of the Treadway Commission (2013 framework). Based on this evaluation, management concluded that our internal control over financial reporting was effective as of December 31, 2020. Management reviewed the results of its assessment with our Audit and Compliance Committee. The effectiveness of our internal control over financial reporting as of December 31, 2020 has been audited by Ernst & Young LLP, an independent registered public accounting firm, as stated in its report which is included in Item 8 of this Annual Report on Form 10-K.

Limitations on Effectiveness of Controls and Procedures

In designing and evaluating the disclosure controls and procedures, management recognizes that any controls and procedures, no matter how well designed and operated, can provide only reasonable assurance of achieving the desired control objectives. In addition, the design of disclosure controls and procedures must reflect the fact that there are resource constraints and that management is required to apply its judgment in evaluating the benefits of possible controls and procedures relative to their costs.

ITEM 9B. OTHER INFORMATION

None.

PART III

ITEM 10. DIRECTORS, EXECUTIVE OFFICERS AND CORPORATE GOVERNANCE

The information required by this item will be included under the caption “Directors, Executive Officers, and Corporate Governance” in our Proxy Statement for 2021 Annual Meeting of Stockholders to be filed with the SEC within 120 days of the fiscal year ended December 31, 2020 (2021 Proxy Statement) and is incorporated herein by reference. The information required by this item regarding delinquent filers pursuant to Item 405 of Regulation S-K will be included under the caption “Section 16(a) Beneficial Ownership Reporting Compliance” in the 2021 Proxy Statement and is incorporated herein by reference.

ITEM 11. EXECUTIVE COMPENSATION

The information required by this item will be included under the captions “Director Compensation,” “Executive Compensation” and “Directors, Executive Officers, and Corporate Governance—Corporate Governance and Board Matters—Compensation Committee Interlocks and Insider Participation” in the 2021 Proxy Statement and is incorporated herein by reference.

ITEM 12. SECURITY OWNERSHIP OF CERTAIN BENEFICIAL OWNERS AND MANAGEMENT AND RELATED STOCKHOLDER MATTERS

The information required by this item will be included under the captions “Common Stock Ownership of Certain Beneficial Owners and Management” and “Equity Compensation Plan Information” in the 2021 Proxy Statement and is incorporated herein by reference.

ITEM 13. CERTAIN RELATIONSHIPS AND RELATED TRANSACTIONS, AND DIRECTOR INDEPENDENCE

The information required by this item will be included under the captions “Certain Relationships and Related Transactions” and “Directors, Executive Officers, and Corporate Governance—Corporate Governance and Board Matters—Director Independence” in the 2021 Proxy Statement and is incorporated herein by reference.

ITEM 14. PRINCIPAL ACCOUNTANT FEES AND SERVICES

The information required by this item will be included under the caption “Independent Registered Public Accounting Firm” in the 2021 Proxy Statement and is incorporated herein by reference.

PART IV

ITEM 15. EXHIBITS, FINANCIAL STATEMENT SCHEDULES

We have filed the following documents as part of this Annual Report on Form 10-K:

1. Consolidated Financial Statements

Reports of Ernst & Young LLP, Independent Registered Public Accounting Firm 51

Financial Statements:

- Consolidated Balance Sheets 54
- Consolidated Statements of Income 55
- Consolidated Statements of Comprehensive Income 56
- Consolidated Statements of Stockholders' Equity 57
- Consolidated Statements of Cash Flows 58
- Notes to Consolidated Financial Statements 59

2. Financial Statement Schedules

Schedule II: Valuation and Qualifying Accounts

The table below details the activity of the allowance for credit losses and sales credits for the years ended December 31, 2018, 2019 and 2020 (in millions):

	Balance at Beginning of Year	Additions	Usage	Balance at End of Year
Year ended December 31, 2018	$ 674	$ 1,115	$ (1,060)	$ 729
Year ended December 31, 2019	$ 729	$ 1,481	$ (1,457)	$ 753
Year ended December 31, 2020	$ 753	$ 2,013	$ (1,422)	$ 1,344

Note: Additions to the allowance for credit losses are charged to expense. Additions to the allowance for sales credits are charged against revenues.

All other schedules have been omitted because they are not required, not applicable, or the required information is otherwise included.

3. Exhibits

Exhibit Number	Description	Incorporated by reference herein	
		Form	Date
2.01	Agreement and Plan of Merger, dated October 2, 2015, by and among Google Inc., the Registrant and Maple Technologies Inc.	Current Report on Form 8-K (File No. 001-37580)	October 2, 2015
3.01	Amended and Restated Certificate of Incorporation of the Registrant, dated October 2, 2015	Current Report on Form 8-K (File No. 001-37580)	October 2, 2015
3.02	Amended and Restated Bylaws of the Registrant, dated October 21, 2020	Current Report on Form 8-K (File No. 001-37580)	October 27, 2020
4.01	Specimen Class A Common Stock certificate	Current Report on Form 8-K (File No. 001-37580)	October 2, 2015
4.02	Specimen Class C Capital Stock certificate	Current Report on Form 8-K (File No. 001-37580)	October 2, 2015
4.03	Alphabet Inc. Deferred Compensation Plan	Current Report on Form 8-K (File No. 001-37580)	October 2, 2015
4.04	Transfer Restriction Agreement, dated October 2, 2015, between the Registrant and Larry Page and certain of his affiliates	Current Report on Form 8-K (File No. 001-37580)	October 2, 2015

Exhibit Number		Description	Incorporated by reference herein	
			Form	Date
4.05		Transfer Restriction Agreement, dated October 2, 2015, between the Registrant and Sergey Brin and certain of his affiliates	Current Report on Form 8-K (File No. 001-37580)	October 2, 2015
4.06		Transfer Restriction Agreement, dated October 2, 2015, between the Registrant and Eric E. Schmidt and certain of its affiliates	Current Report on Form 8-K (File No. 001-37580)	October 2, 2015
4.07		Class C Undertaking, dated October 2, 2015, executed by the Registrant	Current Report on Form 8-K (File No. 001-37580)	October 2, 2015
4.08		Indenture, dated February 12, 2016, between the Registrant and The Bank of New York Mellon Trust Company, N.A., as Trustee	Registration Statement on Form S-3 (File No. 333-209510)	February 12, 2016
4.09		Registrant Registration Rights Agreement dated December 14, 2015	Registration Statement on Form S-3 (File No. 333-209518)	February 12, 2016
4.10		First Supplemental Indenture, dated April 27, 2016, between the Registrant and The Bank of New York Mellon Trust Company, N.A., as trustee	Current Report on Form 8-K (File No. 001-37580)	April 27, 2016
4.11		Form of the Registrant's 3.625% Notes due 2021 (included in Exhibit 4.10)		
4.12		Form of the Registrant's 3.375% Notes due 2024 (included in Exhibit 4.10)		
4.13		Form of the Registrant's 1.998% Note due 2026	Current Report on Form 8-K (File No. 001-37580)	August 9, 2016
4.14		Form of Global Note representing the Registrant's 0.450% notes due 2025	Current Report on Form 8-K (File No. 001-37580)	August 5, 2020
4.15		Form of Global Note representing the Registrant's 0.800% notes due 2027	Current Report on Form 8-K (File No. 001-37580)	August 5, 2020
4.16		Form of Global Note representing the Registrant's 1.100% notes due 2030	Current Report on Form 8-K (File No. 001-37580)	August 5, 2020
4.17		Form of Global Note representing the Registrant's 1.900% notes due 2040	Current Report on Form 8-K (File No. 001-37580)	August 5, 2020
4.18		Form of Global Note representing the Registrant's 2.050% notes due 2050	Current Report on Form 8-K (File No. 001-37580)	August 5, 2020
4.19		Form of Global Note representing the Registrant's 2.250% notes due 2060	Current Report on Form 8-K (File No. 001-37580)	August 5, 2020
4.20		Description of Registrant's Securities	Annual Report on Form 10-K (File No. 001-37580)	February 4, 2020
10.01	◆	Form of Indemnification Agreement entered into between the Registrant, its affiliates and its directors and officers	Current Report on Form 8-K (File No. 001-37580)	October 2, 2015
10.02	◆	Compensation Plan Agreement, dated October 2, 2015, between Google Inc. and the Registrant	Current Report on Form 8-K (File No. 001-37580)	October 2, 2015
10.03	◆	Director Arrangements Agreement, dated October 2, 2015, between Google Inc. and the Registrant	Current Report on Form 8-K (File No. 001-37580)	October 2, 2015
10.04	◆	Alphabet Inc. Deferred Compensation Plan	Current Report on Form 8-K (File No. 001-37580)	October 2, 2015
10.05	◆	Google Inc. 2004 Stock Plan, as amended	Current Report on Form 8-K (File No. 000-50726)	June 7, 2011
10.05.1	◆	Google Inc. 2004 Stock Plan - Form of Google Stock Option Agreement	Annual Report on Form 10-K (File No. 000-50726)	March 30, 2005

Exhibit Number		Description	Incorporated by reference herein	
			Form	Date
10.05.2	◆	Google Inc. 2004 Stock Plan - Form of Google Restricted Stock Unit Agreement	Annual Report on Form 10-K (File No. 000-50726)	March 30, 2005
10.05.3	◆	Google Inc. 2004 Stock Plan - Amendment to Stock Option Agreements	Registration Statement on Form S-3 (File No. 333-142243)	April 20, 2007
10.06	◆	Alphabet Inc. Amended and Restated 2012 Stock Plan	Current Report on Form 8-K (File No. 001-37580)	June 5, 2020
10.06.1	◆	Alphabet Inc. Amended and Restated 2012 Stock Plan - Form of Alphabet Restricted Stock Unit Agreement	Annual Report on Form 10-K (File No. 000-50726)	February 4, 2020
10.06.2	◆	Alphabet Inc. Amended and Restated 2012 Stock Plan - Performance Stock Unit Agreement	Annual Report on Form 10-K (File No. 000-50726)	February 4, 2020
10.07	◆	Motorola Mobility Holdings, Inc. 2011 Incentive Compensation Plan	Registration Statement on Form S-8 (File No. 333-181661)	May 24, 2012
14.01		Code of Conduct of the Registrant as amended on September 21, 2017	Annual Report on Form 10-K (File No. 001-37580)	February 6, 2018
21.01	*	Subsidiaries of the Registrant		
23.01	*	Consent of Ernst & Young LLP, Independent Registered Public Accounting Firm		
24.01	*	Power of Attorney (incorporated by reference to the signature page of this Annual Report on Form 10-K)		
31.01	*	Certification of Chief Executive Officer pursuant to Exchange Act Rules 13a-14(a) and 15d-14(a), as adopted pursuant to Section 302 of the Sarbanes-Oxley Act of 2002		
31.02	*	Certification of Chief Financial Officer pursuant to Exchange Act Rules 13a-14(a) and 15d-14(a), as adopted pursuant to Section 302 of the Sarbanes-Oxley Act of 2002		
32.01	‡	Certifications of Chief Executive Officer and Chief Financial Officer pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002		
99.01		Stipulation and Agreement of Settlement	Current Report on Form 8-K (File No. 001-37580)	September 5, 2020
99.02		Notice of Pendency and Proposed Settlement of Derivative Actions	Current Report on Form 8-K (File No. 001-37580)	October 23, 2020
101.INS	*	Inline XBRL Instance Document - the instance document does not appear in the Interactive Data File because its XBRL tags are embedded within the Inline XBRL document.		
101.SCH	*	XBRL Taxonomy Extension Schema Document		
101.CAL	*	XBRL Taxonomy Extension Calculation Linkbase Document		
101.DEF	*	XBRL Taxonomy Extension Definition Linkbase Document		
101.LAB	*	XBRL Taxonomy Extension Label Linkbase Document		

Exhibit Number		Description	Incorporated by reference herein	
			Form	Date
101.PRE	*	XBRL Taxonomy Extension Presentation Linkbase Document		
104		Cover Page Interactive Data File (formatted as Inline XBRL and contained in Exhibit 101)		

_____

◆ Indicates management compensatory plan, contract, or arrangement.

* Filed herewith.

‡ Furnished herewith.

ITEM 16. FORM 10-K SUMMARY

None.

SIGNATURES

Pursuant to the requirements of Section 13 or 15(d) of the Securities Exchange Act of 1934, the Registrant has duly caused this Annual Report on Form 10-K to be signed on its behalf by the undersigned, thereunto duly authorized.

Date: February 2, 2021

ALPHABET INC.

By: /S/ SUNDAR PICHAI
Sundar Pichai
Chief Executive Officer
(Principal Executive Officer of the Registrant)

POWER OF ATTORNEY

KNOW ALL PERSONS BY THESE PRESENTS, that each person whose signature appears below constitutes and appoints Sundar Pichai and Ruth M. Porat, jointly and severally, his or her attorney-in-fact, with the power of substitution, for him or her in any and all capacities, to sign any amendments to this Annual Report on Form 10-K and to file the same, with exhibits thereto and other documents in connection therewith, with the Securities and Exchange Commission, hereby ratifying and confirming all that each of said attorneys-in-fact, or his or her substitute or substitutes, may do or cause to be done by virtue hereof.

Pursuant to the requirements of the Securities Exchange Act of 1934, this Annual Report on Form 10-K has been signed below by the following persons on behalf of the Registrant and in the capacities and on the dates indicated.

Signature	Title	Date
/S/ SUNDAR PICHAI **Sundar Pichai**	Chief Executive Officer and Director (Principal Executive Officer)	February 2, 2021
/S/ RUTH M. PORAT **Ruth M. Porat**	Senior Vice President and Chief Financial Officer (Principal Financial Officer)	February 2, 2021
/S/ AMIE THUENER O'TOOLE **Amie Thuener O'Toole**	Vice President and Chief Accounting Officer (Principal Accounting Officer)	February 2, 2021
/S/ FRANCES H. ARNOLD **Frances H. Arnold**	Director	February 2, 2021
/S/ SERGEY BRIN **Sergey Brin**	Co-Founder and Director	February 2, 2021
/S/ L. JOHN DOERR **L. John Doerr**	Director	February 2, 2021
/S/ ROGER W. FERGUSON, JR. **Roger W. Ferguson, Jr.**	Director	February 2, 2021
/S/ JOHN L. HENNESSY **John L. Hennessy**	Director, Chair	February 2, 2021
/S/ ANN MATHER **Ann Mather**	Director	February 2, 2021
/S/ ALAN R. MULALLY **Alan R. Mulally**	Director	February 2, 2021
/S/ LARRY PAGE **Larry Page**	Co-Founder and Director	February 2, 2021
/S/ K. RAM SHRIRAM **K. Ram Shriram**	Director	February 2, 2021
/S/ Robin L. Washington **Robin L. Washington**	Director	February 2, 2021

CO EX-8.38

UNITED STATES
SECURITIES AND EXCHANGE COMMISSION
Washington, D.C. 20549

FORM 10-K

(Mark One)

☒ **ANNUAL REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934**

For the fiscal year ended December 31, 2020

or

☐ **TRANSITION REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934**

For the transition period from to .

Commission File No. 000-22513

AMAZON.COM, INC.

(Exact name of registrant as specified in its charter)

Delaware	**91-1646860**
(State or other jurisdiction of incorporation or organization)	**(I.R.S. Employer Identification No.)**

410 Terry Avenue North
Seattle, Washington 98109-5210
(206) 266-1000
(Address and telephone number, including area code, of registrant's principal executive offices)

Securities registered pursuant to Section 12(b) of the Act:

Title of Each Class	Trading Symbol(s)	Name of Each Exchange on Which Registered
Common Stock, par value $.01 per share	AMZN	Nasdaq Global Select Market

Securities registered pursuant to Section 12(g) of the Act:
None

Indicate by check mark if the registrant is a well-known seasoned issuer, as defined in Rule 405 of the Securities Act. Yes ☒ No ☐

Indicate by check mark if the registrant is not required to file reports pursuant to Section 13 or Section 15(d) of the Exchange Act. Yes ☐ No ☒

Indicate by check mark whether the registrant (1) has filed all reports required to be filed by Section 13 or 15(d) of the Securities Exchange Act of 1934 during the preceding 12 months (or for such shorter period that the registrant was required to file such reports), and (2) has been subject to such filing requirements for the past 90 days. Yes ☒ No ☐

Indicate by check mark whether the registrant has submitted electronically every Interactive Data File required to be submitted pursuant to Rule 405 of Regulation S-T during the preceding 12 months (or for such shorter period that the registrant was required to submit such files). Yes ☒ No ☐

Indicate by check mark whether the registrant is a large accelerated filer, an accelerated filer, a non-accelerated filer, a smaller reporting company, or an emerging growth company. See the definitions of "large accelerated filer," "accelerated filer," "smaller reporting company," and "emerging growth company" in Rule 12b-2 of the Exchange Act.

Large accelerated filer	☒	Accelerated filer	☐
Non-accelerated filer	☐	Smaller reporting company	☐
		Emerging growth company	☐

If an emerging growth company, indicate by check mark if the registrant has elected not to use the extended transition period for complying with any new or revised financial accounting standards provided pursuant to Section 13(a) of the Exchange Act. ☐

Indicate by check mark whether the registrant has filed a report on and attestation to its management's assessment of the effectiveness of its internal control over financial reporting under Section 404(b) of the Sarbanes-Oxley Act (15 U.S.C. 7262(b)) by the registered public accounting firm that prepared or issued its audit report. ☒

Indicate by check mark whether the registrant is a shell company (as defined in Rule 12b-2 of the Exchange Act). Yes ☐ No ☒

Aggregate market value of voting stock held by non-affiliates of the registrant as of June 30, 2020	$	1,174,367,787,295
Number of shares of common stock outstanding as of January 20, 2021		503,564,743

DOCUMENTS INCORPORATED BY REFERENCE

The information required by Part III of this Report, to the extent not set forth herein, is incorporated herein by reference from the registrant's definitive proxy statement relating to the Annual Meeting of Shareholders to be held in 2021, which definitive proxy statement shall be filed with the Securities and Exchange Commission within 120 days after the end of the fiscal year to which this Report relates.

AMAZON.COM, INC.
FORM 10-K
For the Fiscal Year Ended December 31, 2020
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AMAZON.COM, INC.

PART I

Item 1. ***Business***

This Annual Report on Form 10-K and the documents incorporated herein by reference contain forward-looking statements based on expectations, estimates, and projections as of the date of this filing. Actual results may differ materially from those expressed in forward-looking statements. See Item 1A of Part I — "Risk Factors."

Amazon.com, Inc.'s principal corporate offices are located in Seattle, Washington. We completed our initial public offering in May 1997 and our common stock is listed on the Nasdaq Global Select Market under the symbol "AMZN."

As used herein, "Amazon.com," "we," "our," and similar terms include Amazon.com, Inc. and its subsidiaries, unless the context indicates otherwise.

General

We seek to be Earth's most customer-centric company. We are guided by four principles: customer obsession rather than competitor focus, passion for invention, commitment to operational excellence, and long-term thinking. In each of our segments, we serve our primary customer sets, consisting of consumers, sellers, developers, enterprises, and content creators. In addition, we provide services, such as advertising to sellers, vendors, publishers, authors, and others, through programs such as sponsored ads, display, and video advertising.

We have organized our operations into three segments: North America, International, and Amazon Web Services ("AWS"). These segments reflect the way the Company evaluates its business performance and manages its operations. Information on our net sales is contained in Item 8 of Part II, "Financial Statements and Supplementary Data — Note 10 — Segment Information."

Consumers

We serve consumers through our online and physical stores and focus on selection, price, and convenience. We design our stores to enable hundreds of millions of unique products to be sold by us and by third parties across dozens of product categories. Customers access our offerings through our websites, mobile apps, Alexa, devices, streaming, and physically visiting our stores. We also manufacture and sell electronic devices, including Kindle, Fire tablet, Fire TV, Echo, Ring, and other devices, and we develop and produce media content. We seek to offer our customers low prices, fast and free delivery, easy-to-use functionality, and timely customer service. In addition, we offer Amazon Prime, a membership program that includes unlimited free shipping on over 100 million items, access to unlimited streaming of tens of thousands of movies and TV episodes, including Amazon Original content, and other benefits.

We fulfill customer orders in a number of ways, including through: North America and International fulfillment networks that we operate; co-sourced and outsourced arrangements in certain countries; digital delivery; and through our physical stores. We operate customer service centers globally, which are supplemented by co-sourced arrangements. See Item 2 of Part I, "Properties."

Sellers

We offer programs that enable sellers to grow their businesses, sell their products in our stores, and fulfill orders through us. We are not the seller of record in these transactions. We earn fixed fees, a percentage of sales, per-unit activity fees, interest, or some combination thereof, for our seller programs.

Developers and Enterprises

We serve developers and enterprises of all sizes, including start-ups, government agencies, and academic institutions, through AWS, which offers a broad set of on-demand technology services, including compute, storage, database, analytics, and machine learning, and other services.

Content Creators

We serve authors and independent publishers with Kindle Direct Publishing, an online service that lets independent authors and publishers choose a royalty option and make their books available in the Kindle Store, along with Amazon's own publishing arm, Amazon Publishing. We also offer programs that allow authors, musicians, filmmakers, skill and app developers, and others to publish and sell content.

Competition

Our businesses encompass a large variety of product types, service offerings, and delivery channels. The worldwide marketplace in which we compete is evolving rapidly and intensely competitive, and we face a broad array of competitors from many different industry sectors around the world. Our current and potential competitors include: (1) physical, e-commerce, and omnichannel retailers, publishers, vendors, distributors, manufacturers, and producers of the products we offer and sell to consumers and businesses; (2) publishers, producers, and distributors of physical, digital, and interactive media of all types and all distribution channels; (3) web search engines, comparison shopping websites, social networks, web portals, and other online and app-based means of discovering, using, or acquiring goods and services, either directly or in collaboration with other retailers; (4) companies that provide e-commerce services, including website development and hosting, omnichannel sales, inventory and supply chain management, advertising, fulfillment, customer service, and payment processing; (5) companies that provide fulfillment and logistics services for themselves or for third parties, whether online or offline; (6) companies that provide information technology services or products, including on-premises or cloud-based infrastructure and other services; (7) companies that design, manufacture, market, or sell consumer electronics, telecommunication, and electronic devices; (8) companies that sell grocery products online and in physical stores; and (9) companies that provide advertising services, whether in digital or other formats. We believe that the principal competitive factors in our retail businesses include selection, price, and convenience, including fast and reliable fulfillment. Additional competitive factors for our seller and enterprise services include the quality, speed, and reliability of our services and tools, as well as customers' ability and willingness to change business practices. Some of our current and potential competitors have greater resources, longer histories, more customers, greater brand recognition, and greater control over inputs critical to our various businesses. They may secure better terms from suppliers, adopt more aggressive pricing, pursue restrictive distribution agreements that restrict our access to supply, direct consumers to their own offerings instead of ours, lock-in potential customers with restrictive terms, and devote more resources to technology, infrastructure, fulfillment, and marketing. The Internet facilitates competitive entry and comparison shopping, which enhances the ability of new, smaller, or lesser-known businesses to compete against us. Each of our businesses is also subject to rapid change and the development of new business models and the entry of new and well-funded competitors. Other companies also may enter into business combinations or alliances that strengthen their competitive positions.

Intellectual Property

We regard our trademarks, service marks, copyrights, patents, domain names, trade dress, trade secrets, proprietary technologies, and similar intellectual property as critical to our success, and we rely on trademark, copyright, and patent law, trade-secret protection, and confidentiality and/or license agreements with our employees, customers, partners, and others to protect our proprietary rights. We have registered, or applied for the registration of, a number of U.S. and international domain names, trademarks, service marks, and copyrights. Additionally, we have filed U.S. and international patent applications covering certain of our proprietary technology.

Seasonality

Our business is affected by seasonality, which historically has resulted in higher sales volume during our fourth quarter, which ends December 31.

Human Capital

Our employees are critical to our mission of being Earth's most customer-centric company. As of December 31, 2020, we employed approximately 1,298,000 full-time and part-time employees. Additionally, we utilize independent contractors and temporary personnel to supplement our workforce. Competition for qualified personnel has historically been intense, particularly for software engineers, computer scientists, and other technical staff.

We focus on investment and innovation, inclusion and diversity, safety, and engagement to hire and develop the best talent. We rely on numerous and evolving initiatives to implement these objectives and invent mechanisms for talent development, including industry-leading pay and benefits, skills training programs such as Amazon Career Choice and the Amazon Technical Academy, mentorship and support resources, and programs that advance engagement, communication, and feedback.

Available Information

Our investor relations website is amazon.com/ir and we encourage investors to use it as a way of easily finding information about us. We promptly make available on this website, free of charge, the reports that we file or furnish with the Securities and Exchange Commission ("SEC"), corporate governance information (including our Code of Business Conduct and Ethics), and select press releases.

Executive Officers and Directors

The following tables set forth certain information regarding our Executive Officers and Directors as of January 20, 2021:

Information About Our Executive Officers

Name	Age	Position
Jeffrey P. Bezos	57	President, Chief Executive Officer, and Chairman of the Board
David H. Clark	48	CEO, Worldwide Consumer
Andrew R. Jassy	53	CEO Amazon Web Services
Brian T. Olsavsky	57	Senior Vice President and Chief Financial Officer
Shelley L. Reynolds	56	Vice President, Worldwide Controller, and Principal Accounting Officer
David A. Zapolsky	57	Senior Vice President, General Counsel, and Secretary

Jeffrey P. Bezos. Mr. Bezos has been Chairman of the Board of Amazon.com since founding it in 1994 and Chief Executive Officer since May 1996. Mr. Bezos served as President of the Company from founding until June 1999 and again from October 2000 to the present.

David H. Clark. Mr. Clark has served as CEO Worldwide Consumer since January 2021, and Senior Vice President, Worldwide Operations, from May 2014 until January 2021.

Andrew R. Jassy. Mr. Jassy has served as CEO Amazon Web Services since April 2016, and Senior Vice President, Amazon Web Services, from April 2006 until April 2016.

Brian T. Olsavsky. Mr. Olsavsky has served as Senior Vice President and Chief Financial Officer since June 2015, Vice President, Finance for the Global Consumer Business from December 2011 to June 2015, and numerous financial leadership roles across Amazon with global responsibility since April 2002.

Shelley L. Reynolds. Ms. Reynolds has served as Vice President, Worldwide Controller, and Principal Accounting Officer since April 2007.

David A. Zapolsky. Mr. Zapolsky has served as Senior Vice President, General Counsel, and Secretary since May 2014, Vice President, General Counsel, and Secretary from September 2012 to May 2014, and as Vice President and Associate General Counsel for Litigation and Regulatory matters from April 2002 until September 2012.

Board of Directors

Name	Age	Position
Jeffrey P. Bezos	57	President, Chief Executive Officer, and Chairman of the Board
Keith B. Alexander	69	Co-CEO, President, and Chair of IronNet Cybersecurity, Inc.
Rosalind G. Brewer	58	Group President, Americas and Chief Operating Officer, Starbucks Corporation
Jamie S. Gorelick	70	Partner, Wilmer Cutler Pickering Hale and Dorr LLP
Daniel P. Huttenlocher	62	Dean, MIT Schwarzman College of Computing
Judith A. McGrath	68	Former Chair and CEO, MTV Networks
Indra K. Nooyi	65	Former Chief Executive Officer, PepsiCo, Inc.
Jonathan J. Rubinstein	64	Former co-CEO, Bridgewater Associates, LP
Thomas O. Ryder	76	Retired, Former Chair, Reader’s Digest Association, Inc.
Patricia Q. Stonesifer	64	Former President and Chief Executive Officer, Martha’s Table
Wendell P. Weeks	61	Chief Executive Officer, Corning Incorporated

Item 1A. ***Risk Factors***

Please carefully consider the following discussion of significant factors, events, and uncertainties that make an investment in our securities risky. The events and consequences discussed in these risk factors could, in circumstances we may or may not be able to accurately predict, recognize, or control, have a material adverse effect on our business, growth, reputation, prospects, financial condition, operating results (including components of our financial results), cash flows, liquidity, and stock price. These risk factors do not identify all risks that we face; our operations could also be affected by factors, events, or uncertainties that are not presently known to us or that we currently do not consider to present significant risks to our operations. In addition to the effects of the COVID-19 pandemic and resulting global disruptions on our business and operations discussed in Item 7 of Part II, "Management's Discussion and Analysis of Financial Condition and Results of Operations," and in the risk factors below, additional or unforeseen effects from the COVID-19 pandemic and the global economic climate may give rise to or amplify many of the risks discussed below.

Business and Industry Risks

We Face Intense Competition

Our businesses are rapidly evolving and intensely competitive, and we have many competitors across geographies, including cross-border competition, and in different industries, including physical, e-commerce, and omnichannel retail, e-commerce services, web and infrastructure computing services, electronic devices, digital content, advertising, grocery, and transportation and logistics services. Some of our current and potential competitors have greater resources, longer histories, more customers, and/or greater brand recognition, particularly with our newly-launched products and services and in our newer geographic regions. They may secure better terms from vendors, adopt more aggressive pricing, and devote more resources to technology, infrastructure, fulfillment, and marketing.

Competition continues to intensify, including with the development of new business models and the entry of new and well-funded competitors, and as our competitors enter into business combinations or alliances and established companies in other market segments expand to become competitive with our business. In addition, new and enhanced technologies, including search, web and infrastructure computing services, digital content, and electronic devices continue to increase our competition. The Internet facilitates competitive entry and comparison shopping, which enhances the ability of new, smaller, or lesser known businesses to compete against us. As a result of competition, our product and service offerings may not be successful, we may fail to gain or may lose business, and we may be required to increase our spending or lower prices, any of which could materially reduce our sales and profits.

Our Expansion into New Products, Services, Technologies, and Geographic Regions Subjects Us to Additional Risks

We may have limited or no experience in our newer market segments, and our customers may not adopt our product or service offerings. These offerings, which can present new and difficult technology challenges, may subject us to claims if customers of these offerings experience service disruptions or failures or other quality issues. In addition, profitability, if any, in our newer activities may not meet our expectations, and we may not be successful enough in these newer activities to recoup our investments in them. Failure to realize the benefits of amounts we invest in new technologies, products, or services could result in the value of those investments being written down or written off.

Our International Operations Expose Us to a Number of Risks

Our international activities are significant to our revenues and profits, and we plan to further expand internationally. In certain international market segments, we have relatively little operating experience and may not benefit from any first-to-market advantages or otherwise succeed. It is costly to establish, develop, and maintain international operations and stores, and promote our brand internationally. Our international operations may not become profitable on a sustained basis.

In addition to risks described elsewhere in this section, our international sales and operations are subject to a number of risks, including:

- local economic and political conditions;
- government regulation (such as regulation of our product and service offerings and of competition); restrictive governmental actions (such as trade protection measures, including export duties and quotas and custom duties and tariffs); nationalization; and restrictions on foreign ownership;
- restrictions on sales or distribution of certain products or services and uncertainty regarding liability for products, services, and content, including uncertainty as a result of less Internet-friendly legal systems, local laws, lack of legal precedent, and varying rules, regulations, and practices regarding the physical and digital distribution of media products and enforcement of intellectual property rights;

- business licensing or certification requirements, such as for imports, exports, web services, and electronic devices;
- limitations on the repatriation and investment of funds and foreign currency exchange restrictions;
- limited fulfillment and technology infrastructure;
- shorter payable and longer receivable cycles and the resultant negative impact on cash flow;
- laws and regulations regarding privacy, data protection, data security, network security, consumer protection, payments, advertising, and restrictions on pricing or discounts;
- lower levels of use of the Internet;
- lower levels of consumer spending and fewer opportunities for growth compared to the U.S.;
- lower levels of credit card usage and increased payment risk;
- difficulty in staffing, developing, and managing foreign operations as a result of distance, language, and cultural differences;
- different employee/employer relationships and the existence of works councils and labor unions;
- compliance with the U.S. Foreign Corrupt Practices Act and other applicable U.S. and foreign laws prohibiting corrupt payments to government officials and other third parties;
- laws and policies of the U.S. and other jurisdictions affecting trade, foreign investment, loans, and taxes; and
- geopolitical events, including war and terrorism.

As international physical, e-commerce, and omnichannel retail and other services grow, competition will intensify, including through adoption of evolving business models. Local companies may have a substantial competitive advantage because of their greater understanding of, and focus on, the local customer, as well as their more established local brand names. The inability to hire, train, retain, and manage sufficient required personnel may limit our international growth.

The People's Republic of China ("PRC") and India regulate Amazon's and its affiliates' businesses and operations in country through regulations and license requirements that may restrict (i) foreign investment in and operation of the Internet, IT infrastructure, data centers, retail, delivery, and other sectors, (ii) Internet content, and (iii) the sale of media and other products and services. For example, in order to meet local ownership, regulatory licensing, and cybersecurity requirements, we provide certain technology services in China through contractual relationships with third parties that hold PRC licenses to provide services. In India, the government restricts the ownership or control of Indian companies by foreign entities involved in online multi-brand retail trading activities. For www.amazon.in, we provide certain marketing tools and logistics services to third-party sellers to enable them to sell online and deliver to customers, and we hold indirect minority interests in entities that are third-party sellers on the www.amazon.in marketplace. Although we believe these structures and activities comply with existing laws, they involve unique risks, and the PRC and India may from time to time consider and implement additional changes in their regulatory, licensing, or other requirements that could impact these structures and activities. There are substantial uncertainties regarding the interpretation of PRC and Indian laws and regulations, and it is possible that these governments will ultimately take a view contrary to ours. In addition, our Chinese and Indian businesses and operations may be unable to continue to operate if we or our affiliates are unable to access sufficient funding or, in China, enforce contractual relationships we or our affiliates have in place. Violation of any existing or future PRC, Indian, or other laws or regulations or changes in the interpretations of those laws and regulations could result in our businesses in those countries being subject to fines and other financial penalties, having licenses revoked, or being forced to restructure our operations or shut down entirely.

The Variability in Our Retail Business Places Increased Strain on Our Operations

Demand for our products and services can fluctuate significantly for many reasons, including as a result of seasonality, promotions, product launches, or unforeseeable events, such as in response to natural or man-made disasters, extreme weather, or geopolitical events. For example, we expect a disproportionate amount of our retail sales to occur during our fourth quarter. Our failure to stock or restock popular products in sufficient amounts such that we fail to meet customer demand could significantly affect our revenue and our future growth. When we overstock products, we may be required to take significant inventory markdowns or write-offs and incur commitment costs, which could materially reduce profitability. We regularly experience increases in our net shipping cost due to complimentary upgrades, split-shipments, and additional long-zone shipments necessary to ensure timely delivery for the holiday season. If too many customers access our websites within a short period of time due to increased demand, we may experience system interruptions that make our websites unavailable or prevent us from efficiently fulfilling orders, which may reduce the volume of goods we offer or sell and the attractiveness of our products and services. In addition, we may be unable to adequately staff our fulfillment network and customer service centers during these peak periods and delivery and other fulfillment companies and customer service co-sourcers may be unable to meet the seasonal demand. Risks described elsewhere in this Item 1A relating to fulfillment network optimization and inventory are magnified during periods of high demand.

We generally have payment terms with our retail vendors that extend beyond the amount of time necessary to collect proceeds from our consumer customers. As a result of holiday sales, as of December 31 of each year, our cash, cash equivalents, and marketable securities balances typically reach their highest level (other than as a result of cash flows provided by or used in investing and financing activities). This operating cycle results in a corresponding increase in accounts payable as of December 31. Our accounts payable balance generally declines during the first three months of the year, resulting in a corresponding decline in our cash, cash equivalents, and marketable securities balances.

We Are Impacted by Fraudulent or Unlawful Activities of Sellers

The law relating to the liability of online service providers is currently unsettled. In addition, governmental agencies have in the past and could in the future require changes in the way this business is conducted. Under our seller programs, we maintain policies and processes designed to prevent sellers from collecting payments, fraudulently or otherwise, when buyers never receive the products they ordered or when the products received are materially different from the sellers' descriptions, and to prevent sellers in our stores or through other stores from selling unlawful, counterfeit, pirated, or stolen goods, selling goods in an unlawful or unethical manner, violating the proprietary rights of others, or otherwise violating our policies. When these policies and processes are circumvented or fail to operate sufficiently, it can harm our business or damage our reputation and we could face civil or criminal liability for unlawful activities by our sellers. Under our A2Z Guarantee, we reimburse buyers for payments up to certain limits in these situations, and as our third-party seller sales grow, the cost of this program will increase and could negatively affect our operating results.

We Face Risks Related to Adequately Protecting Our Intellectual Property Rights and Being Accused of Infringing Intellectual Property Rights of Third Parties

We regard our trademarks, service marks, copyrights, patents, trade dress, trade secrets, proprietary technology, and similar intellectual property as critical to our success, and we rely on trademark, copyright, and patent law, trade secret protection, and confidentiality and/or license agreements with our employees, customers, and others to protect our proprietary rights. Effective intellectual property protection is not available in every country in which our products and services are made available. We also may not be able to acquire or maintain appropriate domain names in all countries in which we do business. Furthermore, regulations governing domain names may not protect our trademarks and similar proprietary rights. We may be unable to prevent third parties from acquiring domain names that are similar to, infringe upon, or diminish the value of our trademarks and other proprietary rights.

We are not always able to discover or determine the extent of any unauthorized use of our proprietary rights. Actions taken by third parties that license our proprietary rights may materially diminish the value of our proprietary rights or reputation. The protection of our intellectual property requires the expenditure of significant financial and managerial resources. Moreover, the steps we take to protect our intellectual property do not always adequately protect our rights or prevent third parties from infringing or misappropriating our proprietary rights. We also cannot be certain that others will not independently develop or otherwise acquire equivalent or superior technology or other intellectual property rights.

We have been subject to, and expect to continue to be subject to, claims and legal proceedings regarding alleged infringement by us of the intellectual property rights of third parties. Such claims, whether or not meritorious, have in the past, and may in the future, result in the expenditure of significant financial and managerial resources, injunctions against us, or significant payments for damages, including to satisfy indemnification obligations or to obtain licenses from third parties who allege that we have infringed their rights. Such licenses may not be available on terms acceptable to us or at all. These risks have been amplified by the increase in third parties whose sole or primary business is to assert such claims.

Our digital content offerings depend in part on effective digital rights management technology to control access to digital content. Breach or malfunctioning of the digital rights management technology that we use could subject us to claims, and content providers may be unwilling to include their content in our service.

We Have Foreign Exchange Risk

The results of operations of, and certain of our intercompany balances associated with, our international stores and product and service offerings are exposed to foreign exchange rate fluctuations. Due to these fluctuations, operating results may differ materially from expectations, and we may record significant gains or losses on the remeasurement of intercompany balances. As we have expanded our international operations, our exposure to exchange rate fluctuations has increased. We also hold cash equivalents and/or marketable securities in foreign currencies including Euros, British Pounds, and Japanese Yen. When the U.S. Dollar strengthens compared to these currencies, cash equivalents, and marketable securities balances, when translated, may be materially less than expected and vice versa.

Operating Risks

Our Expansion Places a Significant Strain on our Management, Operational, Financial, and Other Resources

We are continuing to rapidly and significantly expand our global operations, including increasing our product and service offerings and scaling our infrastructure to support our retail and services businesses. The complexity of the current scale of our business can place significant strain on our management, personnel, operations, systems, technical performance, financial resources, and internal financial control and reporting functions, and our expansion increases these factors. Failure to manage growth effectively could damage our reputation, limit our growth, and negatively affect our operating results.

We Experience Significant Fluctuations in Our Operating Results and Growth Rate

We are not always able to accurately forecast our growth rate. We base our expense levels and investment plans on sales estimates. A significant portion of our expenses and investments is fixed, and we are not always able to adjust our spending quickly enough if our sales are less than expected.

Our revenue growth may not be sustainable, and our percentage growth rates may decrease. Our revenue and operating profit growth depends on the continued growth of demand for the products and services offered by us or our sellers, and our business is affected by general economic and business conditions worldwide. A softening of demand, whether caused by changes in customer preferences or a weakening of the U.S. or global economies, may result in decreased revenue or growth.

Our sales and operating results will also fluctuate for many other reasons, including due to factors described elsewhere in this section and the following:

- our ability to retain and increase sales to existing customers, attract new customers, and satisfy our customers' demands;
- our ability to retain and expand our network of sellers;
- our ability to offer products on favorable terms, manage inventory, and fulfill orders;
- the introduction of competitive stores, websites, products, services, price decreases, or improvements;
- changes in usage or adoption rates of the Internet, e-commerce, electronic devices, and web services, including outside the U.S.;
- timing, effectiveness, and costs of expansion and upgrades of our systems and infrastructure;
- the success of our geographic, service, and product line expansions;
- the extent to which we finance, and the terms of any such financing for, our current operations and future growth;
- the outcomes of legal proceedings and claims, which may include significant monetary damages or injunctive relief and could have a material adverse impact on our operating results;
- variations in the mix of products and services we sell;
- variations in our level of merchandise and vendor returns;
- the extent to which we offer fast and free delivery, continue to reduce prices worldwide, and provide additional benefits to our customers;
- factors affecting our reputation or brand image;
- the extent to which we invest in technology and content, fulfillment, and other expense categories;

- increases in the prices of fuel and gasoline, as well as increases in the prices of other energy products and commodities like paper and packing supplies and hardware products;
- the extent to which operators of the networks between our customers and our stores successfully charge fees to grant our customers unimpaired and unconstrained access to our online services;
- our ability to collect amounts owed to us when they become due;
- the extent to which new and existing technologies, or industry trends, restrict online advertising or affect our ability to customize advertising or otherwise tailor our product and service offerings;
- the extent to which use of our services is affected by spyware, viruses, phishing and other spam emails, denial of service attacks, data theft, computer intrusions, outages, and similar events; and
- disruptions from natural or man-made disasters, extreme weather, geopolitical events and security issues (including terrorist attacks and armed hostilities), labor or trade disputes, and similar events.

We Face Risks Related to Successfully Optimizing and Operating Our Fulfillment Network and Data Centers

Failures to adequately predict customer demand or otherwise optimize and operate our fulfillment network and data centers successfully from time to time result in excess or insufficient fulfillment or data center capacity, increased costs, and impairment charges, any of which could materially harm our business. As we continue to add fulfillment and data center capability or add new businesses with different requirements, our fulfillment and data center networks become increasingly complex and operating them becomes more challenging. There can be no assurance that we will be able to operate our networks effectively.

In addition, failure to optimize inventory in our fulfillment network increases our net shipping cost by requiring long-zone or partial shipments. We and our co-sourcers may be unable to adequately staff our fulfillment network and customer service centers. Under some of our commercial agreements, we maintain the inventory of other companies, thereby increasing the complexity of tracking inventory and operating our fulfillment network. Our failure to properly handle such inventory or the inability of the other businesses on whose behalf we perform inventory fulfillment services to accurately forecast product demand may result in us being unable to secure sufficient storage space or to optimize our fulfillment network or cause other unexpected costs and other harm to our business and reputation.

We rely on a limited number of shipping companies to deliver inventory to us and completed orders to our customers. The inability to negotiate acceptable terms with these companies or performance problems or other difficulties experienced by these companies or by our own transportation systems could negatively impact our operating results and customer experience. In addition, our ability to receive inbound inventory efficiently and ship completed orders to customers also may be negatively affected by natural or man-made disasters, extreme weather, geopolitical events and security issues, labor or trade disputes, and similar events.

We Could Be Harmed by Data Loss or Other Security Breaches

Because we collect, process, store, and transmit large amounts of data, including confidential, sensitive, proprietary, and business and personal information, failure to prevent or mitigate data loss, theft, misuse, or other security breaches or vulnerabilities affecting our or our vendors' or customers' technology, products, and systems, could: expose us or our customers to a risk of loss, disclosure, or misuse of such information; adversely affect our operating results; result in litigation, liability, or regulatory action (including under laws related to privacy, data protection, data security, network security, and consumer protection); deter customers or sellers from using our stores and services; and otherwise harm our business and reputation. We use third-party technology and systems for a variety of reasons, including, without limitation, encryption and authentication technology, employee email, content delivery to customers, back-office support, and other functions. Some of our systems have experienced past security breaches, and, although they did not have a material adverse effect on our operating results, there can be no assurance of a similar result in the future. Although we have developed systems and processes that are designed to protect customer data and prevent such incidents, including systems and processes designed to reduce the impact of a security breach at a third-party vendor or customer, such measures cannot provide absolute security and may fail to operate as intended or be circumvented.

We Face Risks Related to System Interruption and Lack of Redundancy

We experience occasional system interruptions and delays that make our websites and services unavailable or slow to respond and prevent us from efficiently accepting or fulfilling orders or providing services to third parties, which may reduce our net sales and the attractiveness of our products and services. Steps we take to add software and hardware, upgrade our systems and network infrastructure, and improve the stability and efficiency of our systems may not be sufficient to avoid system interruptions or delays that could adversely affect our operating results.

Our computer and communications systems and operations in the past have been, or in the future could be, damaged or interrupted due to events such as natural or man-made disasters, extreme weather, geopolitical events and security issues (including terrorist attacks and armed hostilities), computer viruses, physical or electronic break-ins, and similar events or disruptions. Any of these events could cause system interruption, delays, and loss of critical data, and could prevent us from accepting and fulfilling customer orders and providing services, which could make our product and service offerings less attractive and subject us to liability. Our systems are not fully redundant and our disaster recovery planning may not be sufficient. In addition, our insurance may not provide sufficient coverage to compensate for related losses. Any of these events could damage our reputation and be expensive to remedy.

The Loss of Key Senior Management Personnel or the Failure to Hire and Retain Highly Skilled and Other Key Personnel Could Negatively Affect Our Business

We depend on our senior management and other key personnel, particularly Jeffrey P. Bezos, our President, CEO, and Chairman. We do not have "key person" life insurance policies. We also rely on other highly skilled personnel. Competition for qualified personnel in the technology industry has historically been intense, particularly for software engineers, computer scientists, and other technical staff. The loss of any of our executive officers or other key employees or the inability to hire, train, retain, and manage qualified personnel, could harm our business.

Our Supplier Relationships Subject Us to a Number of Risks

We have significant suppliers, including content and technology licensors, and in some cases, limited or single-sources of supply, that are important to our sourcing, services, manufacturing, and any related ongoing servicing of merchandise and content. We do not have long-term arrangements with most of our suppliers to guarantee availability of merchandise, content, components, or services, particular payment terms, or the extension of credit limits. Decisions by our current suppliers to limit or stop selling or licensing merchandise, content, components, or services to us on acceptable terms, or delay delivery, including as a result of one or more supplier bankruptcies due to poor economic conditions, as a result of natural disasters, or for other reasons, may result in our being unable to procure alternatives from other suppliers in a timely and efficient manner and on acceptable terms, or at all. In addition, violations by our suppliers or other vendors of applicable laws, regulations, contractual terms, intellectual property rights of others, or our Supply Chain Standards, as well as products or practices regarded as unethical, unsafe, or hazardous, could expose us to claims, damage our reputation, limit our growth, and negatively affect our operating results.

Our Commercial Agreements, Strategic Alliances, and Other Business Relationships Expose Us to Risks

We provide physical, e-commerce, and omnichannel retail and other services to businesses through commercial agreements, strategic alliances, and business relationships. Under these agreements, we provide web services, technology, fulfillment, computing, digital storage, and other services, as well as enable sellers to offer products or services through our stores. These arrangements are complex and require substantial infrastructure capacity, personnel, and other resource commitments, which may limit the amount of business we can service. We may not be able to implement, maintain, and develop the components of these commercial relationships, which may include web services, fulfillment, customer service, inventory management, tax collection, payment processing, hardware, content, and third-party software, and engaging third parties to perform services. The amount of compensation we receive under certain of our commercial agreements is partially dependent on the volume of the other company's sales. Therefore, when the other company's offerings are not successful, the compensation we receive may be lower than expected or the agreement may be terminated. Moreover, we may not be able to enter into additional or alternative commercial relationships and strategic alliances on favorable terms. We also may be subject to claims from businesses to which we provide these services if we are unsuccessful in implementing, maintaining, or developing these services.

As our agreements terminate, we may be unable to renew or replace these agreements on comparable terms, or at all. We may in the future enter into amendments on less favorable terms or encounter parties that have difficulty meeting their contractual obligations to us, which could adversely affect our operating results.

Our present and future e-commerce services agreements, other commercial agreements, and strategic alliances create additional risks such as:

- disruption of our ongoing business, including loss of management focus on existing businesses;
- impairment of other relationships;
- variability in revenue and income from entering into, amending, or terminating such agreements or relationships; and
- difficulty integrating under the commercial agreements.

Our Business Suffers When We Are Unsuccessful in Making, Integrating, and Maintaining Acquisitions and Investments

We have acquired and invested in a number of companies, and we may in the future acquire or invest in or enter into joint ventures with additional companies. These transactions create risks such as:

- disruption of our ongoing business, including loss of management focus on existing businesses;
- problems retaining key personnel;
- additional operating losses and expenses of the businesses we acquired or in which we invested;
- the potential impairment of tangible and intangible assets and goodwill, including as a result of acquisitions;
- the potential impairment of customer and other relationships of the company we acquired or in which we invested or our own customers as a result of any integration of operations;
- the difficulty of completing such transactions and achieving anticipated benefits within expected timeframes, or at all;
- the difficulty of incorporating acquired operations, technology, and rights into our offerings, and unanticipated expenses related to such integration;
- the difficulty of integrating a new company's accounting, financial reporting, management, information and data security, human resource, and other administrative systems to permit effective management, and the lack of control if such integration is delayed or not successfully implemented;
- losses we may incur as a result of declines in the value of an investment or as a result of incorporating an investee's financial performance into our financial results;
- for investments in which an investee's financial performance is incorporated into our financial results, either in full or in part, the dependence on the investee's accounting, financial reporting, and similar systems, controls, and processes;
- the difficulty of implementing at companies we acquire the controls, procedures, and policies appropriate for a larger public company;
- the risks associated with businesses we acquire or invest in, which may differ from or be more significant than the risks our other businesses face;
- potential unknown liabilities associated with a company we acquire or in which we invest; and
- for foreign transactions, additional risks related to the integration of operations across different cultures and languages, and the economic, political, and regulatory risks associated with specific countries.

As a result of future acquisitions or mergers, we might need to issue additional equity securities, spend our cash, or incur debt, contingent liabilities, or amortization expenses related to intangible assets, any of which could reduce our profitability and harm our business or only be available on unfavorable terms, if at all. In addition, valuations supporting our acquisitions and strategic investments could change rapidly. We could determine that such valuations have experienced impairments or other-than-temporary declines in fair value which could adversely impact our financial results.

We Face Significant Inventory Risk

In addition to risks described elsewhere in this Item 1A relating to fulfillment network and inventory optimization by us and third parties, we are exposed to significant inventory risks that may adversely affect our operating results as a result of seasonality, new product launches, rapid changes in product cycles and pricing, defective merchandise, changes in consumer demand and consumer spending patterns, changes in consumer tastes with respect to our products, spoilage, and other factors. We endeavor to accurately predict these trends and avoid overstocking or understocking products we manufacture and/or sell. Demand for products, however, can change significantly between the time inventory or components are ordered and the date of sale. In addition, when we begin selling or manufacturing a new product, it may be difficult to establish vendor relationships, determine appropriate product or component selection, and accurately forecast demand. The acquisition of certain types of inventory or components requires significant lead-time and prepayment and they may not be returnable. We carry a broad selection and significant inventory levels of certain products, such as consumer electronics, and at times we are unable to sell products in sufficient quantities or to meet demand during the relevant selling seasons. Any one of the inventory risk factors set forth above may adversely affect our operating results.

We Are Subject to Payments-Related Risks

We accept payments using a variety of methods, including credit card, debit card, credit accounts (including promotional financing), gift cards, direct debit from a customer's bank account, consumer invoicing, physical bank check, and payment upon delivery. For existing and future payment options we offer to our customers, we currently are subject to, and may become subject to additional, regulations and compliance requirements (including obligations to implement enhanced authentication

processes that could result in significant costs and reduce the ease of use of our payments products), as well as fraud. For certain payment methods, including credit and debit cards, we pay interchange and other fees, which may increase over time and raise our operating costs and lower profitability. We rely on third parties to provide certain Amazon-branded payment methods and payment processing services, including the processing of credit cards, debit cards, electronic checks, and promotional financing. In each case, it could disrupt our business if these companies become unwilling or unable to provide these services to us. We also offer co-branded credit card programs, which could adversely affect our operating results if renewed on less favorable terms or terminated. We are also subject to payment card association operating rules, including data security rules, certification requirements, and rules governing electronic funds transfers, which could change or be reinterpreted to make it difficult or impossible for us to comply. Failure to comply with these rules or requirements, as well as any breach, compromise, or failure to otherwise detect or prevent fraudulent activity involving our data security systems, could result in our being liable for card issuing banks' costs, subject to fines and higher transaction fees, and loss of our ability to accept credit and debit card payments from our customers, process electronic funds transfers, or facilitate other types of online payments, and our business and operating results could be adversely affected.

In addition, we provide regulated services in certain jurisdictions because we enable customers to keep account balances with us and transfer money to third parties, and because we provide services to third parties to facilitate payments on their behalf. Jurisdictions subject us to requirements for licensing, regulatory inspection, bonding and capital maintenance, the use, handling, and segregation of transferred funds, consumer disclosures, maintaining or processing data, and authentication. We are also subject to or voluntarily comply with a number of other laws and regulations relating to payments, money laundering, international money transfers, privacy, data protection, data security, network security, consumer protection, and electronic fund transfers. If we were found to be in violation of applicable laws or regulations, we could be subject to additional requirements and civil and criminal penalties, or forced to cease providing certain services.

We Have a Rapidly Evolving Business Model and Our Stock Price Is Highly Volatile

We have a rapidly evolving business model. The trading price of our common stock fluctuates significantly in response to, among other risks, the risks described elsewhere in this Item 1A, as well as:

- changes in interest rates;
- conditions or trends in the Internet and the industry segments we operate in;
- quarterly variations in operating results;
- fluctuations in the stock market in general and market prices for Internet-related companies in particular;
- changes in financial estimates by us or decisions to increase or decrease future spending or investment levels;
- changes in financial estimates and recommendations by securities analysts;
- changes in our capital structure, including issuance of additional debt or equity to the public;
- changes in the valuation methodology of, or performance by, other e-commerce or technology companies; and
- transactions in our common stock by major investors and certain analyst reports, news, and speculation.

Volatility in our stock price could adversely affect our business and financing opportunities and force us to increase our cash compensation to employees or grant larger stock awards than we have historically, which could hurt our operating results or reduce the percentage ownership of our existing stockholders, or both.

Legal and Regulatory Risks

Government Regulation Is Evolving and Unfavorable Changes Could Harm Our Business

We are subject to general business regulations and laws, as well as regulations and laws specifically governing the Internet, physical, e-commerce, and omnichannel retail, digital content, web services, electronic devices, advertising, artificial intelligence technologies and services, and other products and services that we offer or sell. These regulations and laws cover taxation, privacy, data protection, data security, network security, consumer protection, pricing, content, copyrights, distribution, transportation, mobile communications, electronic device certification, electronic waste, energy consumption, environmental regulation, electronic contracts and other communications, competition, employment, trade and protectionist measures, web services, the provision of online payment services, registration, licensing, and information reporting requirements, unencumbered Internet access to our services or access to our facilities, the design and operation of websites, health, safety, and sanitation standards, the characteristics, legality, and quality of products and services, product labeling, the commercial operation of unmanned aircraft systems, and other matters. It is not clear how existing laws governing issues such as property ownership, libel, privacy, data protection, data security, network security, and consumer protection apply to aspects of our operations such as the Internet, e-commerce, digital content, web services, electronic devices, advertising, and artificial

intelligence technologies and services. A large number of jurisdictions regulate our operations, and the extent, nature, and scope of such regulations is evolving and expanding as the scope of our businesses expand. We are regularly subject to formal and informal reviews and investigations by governments and regulatory authorities under existing laws, regulations, or interpretations or pursuing new and novel approaches to regulate our operations. For example, a number of regulators have opened investigations to assess whether aspects of our operations violate competition rules. Unfavorable regulations, laws, decisions, or interpretations by government or regulatory authorities applying those laws and regulations, or inquiries, investigations, or enforcement actions threatened or initiated by them, could cause us to incur substantial costs, expose us to unanticipated civil and criminal liability or penalties (including substantial monetary fines), diminish the demand for, or availability of, our products and services, increase our cost of doing business, require us to change our business practices in a manner materially adverse to our business, damage our reputation, impede our growth, or otherwise have a material effect on our operations.

Claims, Litigation, Government Investigations, and Other Proceedings May Adversely Affect Our Business and Results of Operations

As an innovative company offering a wide range of consumer and business products and services around the world, we are regularly subject to actual and threatened claims, litigation, reviews, investigations, and other proceedings, including proceedings by governments and regulatory authorities, involving a wide range of issues, including patent and other intellectual property matters, taxes, labor and employment, competition and antitrust, privacy, data protection, data security, network security, consumer protection, commercial disputes, goods and services offered by us and by third parties, and other matters. The number and scale of these proceedings have increased over time as our businesses have expanded in scope and geographic reach and our products, services, and operations have become more complex and available to, and used by, more people. Any of these types of proceedings can have an adverse effect on us because of legal costs, disruption of our operations, diversion of management resources, negative publicity, and other factors. The outcomes of these matters are inherently unpredictable and subject to significant uncertainties. Determining legal reserves or possible losses from such matters involves judgment and may not reflect the full range of uncertainties and unpredictable outcomes. Until the final resolution of such matters, we may be exposed to losses in excess of the amount recorded, and such amounts could be material. Should any of our estimates and assumptions change or prove to have been incorrect, it could have a material effect on our business, consolidated financial position, results of operations, or cash flows. In addition, it is possible that a resolution of one or more such proceedings, including as a result of a settlement, could involve licenses, sanctions, consent decrees, or orders requiring us to make substantial future payments, preventing us from offering certain products or services, requiring us to change our business practices in a manner materially adverse to our business, requiring development of non-infringing or otherwise altered products or technologies, damaging our reputation, or otherwise having a material effect on our operations.

We Are Subject to Product Liability Claims When People or Property Are Harmed by the Products We Sell or Manufacture

Some of the products we sell or manufacture expose us to product liability or food safety claims relating to personal injury or illness, death, or environmental or property damage, and can require product recalls or other actions. Third parties who sell products using our services and stores also expose us to product liability claims. Although we maintain liability insurance, we cannot be certain that our coverage will be adequate for liabilities actually incurred or that insurance will continue to be available to us on economically reasonable terms, or at all. Although we impose contractual terms on sellers that are intended to prohibit sales of certain type of products, we may not be able to detect, enforce, or collect sufficient damages for breaches of such agreements. In addition, some of our agreements with our vendors and sellers do not indemnify us from product liability.

We Face Additional Tax Liabilities and Collection Obligations

We are subject to a variety of taxes and tax collection obligations in the U.S. (federal and state) and numerous foreign jurisdictions. We may recognize additional tax expense and be subject to additional tax liabilities, including other liabilities for tax collection obligations due to changes in laws, regulations, administrative practices, principles, and interpretations related to tax, including changes to the global tax framework, competition, and other laws and accounting rules in various jurisdictions. Such changes could come about as a result of economic, political, and other conditions. An increasing number of jurisdictions are considering or have adopted laws or administrative practices that impose new tax measures, including revenue-based taxes, targeting online commerce and the remote selling of goods and services. These include new obligations to collect sales, consumption, value added, or other taxes on online marketplaces and remote sellers, or other requirements that may result in liability for third party obligations. For example, the European Union, certain member states, and other countries have proposed or enacted taxes on online advertising and marketplace service revenues. Our results of operations and cash flows could be adversely effected by additional taxes of this nature imposed on us prospectively or retroactively or additional taxes or penalties resulting from the failure to comply with any collection obligations or failure to provide information about our customers, suppliers, and other third parties for tax reporting purposes to various government agencies. In some cases we also may not have sufficient notice to enable us to build systems and adopt processes to properly comply with new reporting or collection obligations by the effective date.

Our tax expense and liabilities are also affected by other factors, such as changes in our business operations, acquisitions, investments, entry into new businesses and geographies, intercompany transactions, the relative amount of our foreign earnings, losses incurred in jurisdictions for which we are not able to realize related tax benefits, the applicability of special or extraterritorial tax regimes, changes in foreign currency exchange rates, changes in our stock price, changes to our forecasts of income and loss and the mix of jurisdictions to which they relate, and changes in our tax assets and liabilities and their valuation. In the ordinary course of our business, there are many transactions and calculations for which the ultimate tax determination is uncertain. Significant judgment is required in evaluating and estimating our tax expense, assets, and liabilities.

We are also subject to tax controversies in various jurisdictions that can result in tax assessments against us. Developments in an audit, investigation, or other tax controversy can have a material effect on our operating results or cash flows in the period or periods for which that development occurs, as well as for prior and subsequent periods. We regularly assess the likelihood of an adverse outcome resulting from these proceedings to determine the adequacy of our tax accruals. Although we believe our tax estimates are reasonable, the final outcome of audits, investigations, and any other tax controversies could be materially different from our historical tax accruals.

We Are Subject to Risks Related to Government Contracts and Related Procurement Regulations

Our contracts with U.S., as well as state, local, and foreign, government entities are subject to various procurement regulations and other requirements relating to their formation, administration, and performance. We are subject to audits and investigations relating to our government contracts, and any violations could result in various civil and criminal penalties and administrative sanctions, including termination of contract, refunding or suspending of payments, forfeiture of profits, payment of fines, and suspension or debarment from future government business. In addition, some of these contracts are subject to periodic funding approval and/or provide for termination by the government at any time, without cause.

Item 1B. ***Unresolved Staff Comments***

None.

Item 2. ***Properties***

As of December 31, 2020, we operated the following facilities (in thousands):

Description of Use	Leased Square Footage (1)	Owned Square Footage	Location
Office space	23,731	5,696	North America
Office space	19,023	1,823	International
Physical stores (2)	21,157	662	North America
Physical stores (2)	169	—	International
Fulfillment, data centers, and other	285,677	8,461	North America
Fulfillment, data centers, and other	104,668	3,449	International
Total	454,425	20,091	

(1) For leased properties, represents the total leased space excluding sub-leased space.
(2) This includes 611 North America and 7 International stores as of December 31, 2020.

Segment	Leased Square Footage (1)	Owned Square Footage (1)
North America	298,879	3,813
International	102,192	1,294
AWS	10,599	7,465
Total	411,670	12,572

(1) Segment amounts exclude corporate facilities. Shared facilities are allocated among the segments based on usage and primarily relate to facilities that hold our technology infrastructure. See Item 8 of Part II, "Financial Statements and Supplementary Data — Note 10 — Segment Information."

We own and lease our corporate headquarters in Seattle, Washington and Arlington, Virginia.

Item 3. ***Legal Proceedings***

See Item 8 of Part II, "Financial Statements and Supplementary Data — Note 7 — Commitments and Contingencies — Legal Proceedings."

Item 4. ***Mine Safety Disclosures***

Not applicable.

PART II

Item 5. ***Market for the Registrant's Common Stock, Related Shareholder Matters, and Issuer Purchases of Equity Securities***

Market Information

Our common stock is traded on the Nasdaq Global Select Market under the symbol "AMZN."

Holders

As of January 20, 2021, there were 6,330 shareholders of record of our common stock, although there is a much larger number of beneficial owners.

Recent Sales of Unregistered Securities

None.

Issuer Purchases of Equity Securities

None.

Item 6. ***Selected Consolidated Financial Data***

The following selected consolidated financial data should be read in conjunction with the consolidated financial statements and the notes thereto in Item 8 of Part II, "Financial Statements and Supplementary Data," and the information contained in Item 7 of Part II, "Management's Discussion and Analysis of Financial Condition and Results of Operations." Historical results are not necessarily indicative of future results.

	Year Ended December 31,				
	2016	2017 (1)	2018	2019	2020
	(in millions, except per share data)				
Statements of Operations:					
Net sales	$ 135,987	$ 177,866	$ 232,887	$ 280,522	$ 386,064
Operating income	$ 4,186	$ 4,106	$ 12,421	$ 14,541	$ 22,899
Net income (loss)	$ 2,371	$ 3,033	$ 10,073	$ 11,588	$ 21,331
Basic earnings per share (2)	$ 5.01	$ 6.32	$ 20.68	$ 23.46	$ 42.64
Diluted earnings per share (2)	$ 4.90	$ 6.15	$ 20.14	$ 23.01	$ 41.83
Weighted-average shares used in computation of earnings per share:					
Basic	474	480	487	494	500
Diluted	484	493	500	504	510
Statements of Cash Flows:					
Net cash provided by (used in) operating activities (3)	$ 17,203	$ 18,365	$ 30,723	$ 38,514	$ 66,064

	December 31,				
	2016	2017	2018	2019 (4)	2020
	(in millions)				
Balance Sheets:					
Total assets	$ 83,402	$ 131,310	$ 162,648	$ 225,248	$ 321,195
Total long-term obligations	$ 20,301	$ 45,718	$ 50,708	$ 75,376	$ 101,406

(1) We acquired Whole Foods Market on August 28, 2017. The results of Whole Foods Market have been included in our results of operation from the date of acquisition.

(2) For further discussion of earnings per share, see Item 8 of Part II, "Financial Statements and Supplementary Data — Note 1 — Description of Business, Accounting Policies, and Supplemental Disclosures"

(3) As a result of the adoption of new accounting guidance, we retrospectively adjusted our consolidated statements of cash flows to add restricted cash to cash and cash equivalents, which restated cash provided by operating activities by $(69) million in 2016 and 2017.

(4) As a result of the adoption of new accounting guidance on January 1, 2019, we recognized lease assets and liabilities for operating leases with terms of more than twelve months. Prior period amounts were not adjusted and continue to be reported in accordance with our historic accounting policies.

Item 7. ***Management's Discussion and Analysis of Financial Condition and Results of Operations***

Forward-Looking Statements

This Annual Report on Form 10-K includes forward-looking statements within the meaning of the Private Securities Litigation Reform Act of 1995. All statements other than statements of historical fact, including statements regarding guidance, industry prospects, or future results of operations or financial position, made in this Annual Report on Form 10-K are forward-looking. We use words such as anticipates, believes, expects, future, intends, and similar expressions to identify forward-looking statements. Forward-looking statements reflect management's current expectations and are inherently uncertain. Actual results could differ materially for a variety of reasons, including, among others, fluctuations in foreign exchange rates, changes in global economic conditions and customer spending, world events, the rate of growth of the Internet, online commerce, and cloud services, the amount that Amazon.com invests in new business opportunities and the timing of those investments, the mix of products and services sold to customers, the mix of net sales derived from products as compared with services, the extent to which we owe income or other taxes, competition, management of growth, potential fluctuations in operating results, international growth and expansion, the outcomes of claims, litigation, government investigations, and other proceedings, fulfillment, sortation, delivery, and data center optimization, risks of inventory management, variability in demand, the degree to which we enter into, maintain, and develop commercial agreements, proposed and completed acquisitions and strategic transactions, payments risks, and risks of fulfillment throughput and productivity. In addition, the global economic climate and additional or unforeseen effects from the COVID-19 pandemic amplify many of these risks. These risks and uncertainties, as well as other risks and uncertainties that could cause our actual results to differ significantly from management's expectations, are described in greater detail in Item 1A of Part I, "Risk Factors."

Overview

Our primary source of revenue is the sale of a wide range of products and services to customers. The products offered through our stores include merchandise and content we have purchased for resale and products offered by third-party sellers, and we also manufacture and sell electronic devices and produce media content. Generally, we recognize gross revenue from items we sell from our inventory as product sales and recognize our net share of revenue of items sold by third-party sellers as service sales. We seek to increase unit sales across our stores, through increased product selection, across numerous product categories. We also offer other services such as compute, storage, and database offerings, fulfillment, advertising, publishing, and digital content subscriptions.

Our financial focus is on long-term, sustainable growth in free cash flows. Free cash flows are driven primarily by increasing operating income and efficiently managing accounts receivable, inventory, accounts payable, and cash capital expenditures, including our decision to purchase or lease property and equipment. Increases in operating income primarily result from increases in sales of products and services and efficiently managing our operating costs, partially offset by investments we make in longer-term strategic initiatives, including capital expenditures focused on improving the customer experience. To increase sales of products and services, we focus on improving all aspects of the customer experience, including lowering prices, improving availability, offering faster delivery and performance times, increasing selection, producing original content, increasing product categories and service offerings, expanding product information, improving ease of use, improving reliability, and earning customer trust. See "Results of Operations — Non-GAAP Financial Measures" below for additional information on our non-GAAP free cash flows financial measures.

We seek to reduce our variable costs per unit and work to leverage our fixed costs. Our variable costs include product and content costs, payment processing and related transaction costs, picking, packaging, and preparing orders for shipment, transportation, customer service support, costs necessary to run AWS, and a portion of our marketing costs. Our fixed costs include the costs necessary to build and run our technology infrastructure; to build, enhance, and add features to our online stores, web services, electronic devices, and digital offerings; and to build and optimize our fulfillment networks and related facilities. Variable costs generally change directly with sales volume, while fixed costs generally are dependent on the timing of capacity needs, geographic expansion, category expansion, and other factors. To decrease our variable costs on a per unit basis and enable us to lower prices for customers, we seek to increase our direct sourcing, increase discounts from suppliers, and reduce defects in our processes. To minimize unnecessary growth in fixed costs, we seek to improve process efficiencies and maintain a lean culture.

Because of our model we are able to turn our inventory quickly and have a cash-generating operating cycle[1]. On average, our high inventory velocity means we generally collect from consumers before our payments to suppliers come due. We expect variability in inventory turnover over time since it is affected by numerous factors, including our product mix, the mix of sales

[1] The operating cycle is the number of days of sales in inventory plus the number of days of sales in accounts receivable minus accounts payable days.

by us and by third-party sellers, our continuing focus on in-stock inventory availability and selection of product offerings, our investment in new geographies and product lines, and the extent to which we choose to utilize third-party fulfillment providers. We also expect some variability in accounts payable days over time since they are affected by several factors, including the mix of product sales, the mix of sales by third-party sellers, the mix of suppliers, seasonality, and changes in payment terms over time, including the effect of balancing pricing and timing of payment terms with suppliers.

We expect spending in technology and content will increase over time as we add computer scientists, designers, software and hardware engineers, and merchandising employees. Our technology and content investment and capital spending projects often support a variety of product and service offerings due to geographic expansion and the cross-functionality of our systems and operations. We seek to invest efficiently in several areas of technology and content, including AWS, and expansion of new and existing product categories and service offerings, as well as in technology infrastructure to enhance the customer experience and improve our process efficiencies. We believe that advances in technology, specifically the speed and reduced cost of processing power, data storage and analytics, improved wireless connectivity, and the practical applications of artificial intelligence and machine learning, will continue to improve users' experience on the Internet and increase its ubiquity in people's lives. To best take advantage of these continued advances in technology, we are investing in AWS, which offers a broad set of on-demand technology services, including compute, storage, database, analytics, and machine learning, and other services, to developers and enterprises of all sizes. We are also investing in initiatives to build and deploy innovative and efficient software and electronic devices.

We seek to efficiently manage shareholder dilution while maintaining the flexibility to issue shares for strategic purposes, such as financings, acquisitions, and aligning employee compensation with shareholders' interests. We utilize restricted stock units as our primary vehicle for equity compensation because we believe this compensation model aligns the long-term interests of our shareholders and employees. In measuring shareholder dilution, we include all vested and unvested stock awards outstanding, without regard to estimated forfeitures. Total shares outstanding plus outstanding stock awards were 512 million and 518 million as of December 31, 2019 and 2020.

Our financial reporting currency is the U.S. Dollar and changes in foreign exchange rates significantly affect our reported results and consolidated trends. For example, if the U.S. Dollar weakens year-over-year relative to currencies in our international locations, our consolidated net sales and operating expenses will be higher than if currencies had remained constant. Likewise, if the U.S. Dollar strengthens year-over-year relative to currencies in our international locations, our consolidated net sales and operating expenses will be lower than if currencies had remained constant. We believe that our increasing diversification beyond the U.S. economy through our growing international businesses benefits our shareholders over the long-term. We also believe it is useful to evaluate our operating results and growth rates before and after the effect of currency changes.

In addition, the remeasurement of our intercompany balances can result in significant gains and losses associated with the effect of movements in foreign currency exchange rates. Currency volatilities may continue, which may significantly impact (either positively or negatively) our reported results and consolidated trends and comparisons.

For additional information about each line item addressed above, refer to Item 8 of Part II, "Financial Statements and Supplementary Data — Note 1 — Description of Business, Accounting Policies, and Supplemental Disclosures."

Our Annual Report on Form 10-K for the year ended December 31, 2019 includes a discussion and analysis of our financial condition and results of operations for the year ended December 31, 2018 in Item 7 of Part II, "Management's Discussion and Analysis of Financial Condition and Results of Operations."

Effects of COVID-19

The COVID-19 pandemic and resulting global disruptions have affected our businesses, as well as those of our customers, suppliers, and third-party sellers. To serve our customers while also providing for the safety of our employees and service providers, we have modified numerous aspects of our logistics, transportation, supply chain, purchasing, and third-party seller processes. Beginning in Q1 2020, we made numerous process updates across our operations worldwide, and adapted our fulfillment network, to implement employee and customer safety measures, such as enhanced cleaning and physical distancing, personal protective gear, disinfectant spraying, and temperature checks. Since February 2020, we have hired over 400,000 full-time and part-time employees to increase our fulfillment network capacity. We incurred approximately $4.0 billion in COVID-19 related costs in Q4 2020, for a total of more than $11.5 billion during 2020. We will continue to prioritize employee and customer safety and comply with evolving federal, state, and local standards as well as to implement standards or processes that we determine to be in the best interests of our employees, customers, and communities.

Critical Accounting Judgments

The preparation of financial statements in conformity with generally accepted accounting principles of the United States ("GAAP") requires estimates and assumptions that affect the reported amounts of assets and liabilities, revenues and expenses, and related disclosures of contingent liabilities in the consolidated financial statements and accompanying notes. The SEC has defined a company's critical accounting policies as the ones that are most important to the portrayal of the company's financial condition and results of operations, and which require the company to make its most difficult and subjective judgments, often as a result of the need to make estimates of matters that are inherently uncertain. Based on this definition, we have identified the critical accounting policies and judgments addressed below. We also have other key accounting policies, which involve the use of estimates, judgments, and assumptions that are significant to understanding our results. For additional information, see Item 8 of Part II, "Financial Statements and Supplementary Data — Note 1 — Description of Business, Accounting Policies, and Supplemental Disclosures." Although we believe that our estimates, assumptions, and judgments are reasonable, they are based upon information presently available. Actual results may differ significantly from these estimates under different assumptions, judgments, or conditions.

Inventories

Inventories, consisting of products available for sale, are primarily accounted for using the first-in first-out method, and are valued at the lower of cost and net realizable value. This valuation requires us to make judgments, based on currently available information, about the likely method of disposition, such as through sales to individual customers, returns to product vendors, or liquidations, and expected recoverable values of each disposition category. These assumptions about future disposition of inventory are inherently uncertain and changes in our estimates and assumptions may cause us to realize material write-downs in the future. As a measure of sensitivity, for every 1% of additional inventory valuation allowance as of December 31, 2020, we would have recorded an additional cost of sales of approximately $270 million.

In addition, we enter into supplier commitments for certain electronic device components and certain products. These commitments are based on forecasted customer demand. If we reduce these commitments, we may incur additional costs.

Income Taxes

We are subject to income taxes in the U.S. (federal and state) and numerous foreign jurisdictions. Tax laws, regulations, administrative practices, principles, and interpretations in various jurisdictions may be subject to significant change, with or without notice, due to economic, political, and other conditions, and significant judgment is required in evaluating and estimating our provision and accruals for these taxes. There are many transactions that occur during the ordinary course of business for which the ultimate tax determination is uncertain. In addition, our actual and forecasted earnings are subject to change due to economic, political, and other conditions, such as the COVID-19 pandemic, and significant judgment is required in determining our ability to use our deferred tax assets.

Our effective tax rates could be affected by numerous factors, such as changes in our business operations, acquisitions, investments, entry into new businesses and geographies, intercompany transactions, the relative amount of our foreign earnings, including earnings being lower than anticipated in jurisdictions where we have lower statutory rates and higher than anticipated in jurisdictions where we have higher statutory rates, losses incurred in jurisdictions for which we are not able to realize related tax benefits, the applicability of special tax regimes, changes in foreign currency exchange rates, changes in our stock price, changes to our forecasts of income and loss and the mix of jurisdictions to which they relate, changes in our deferred tax assets and liabilities and their valuation, changes in the laws, regulations, administrative practices, principles, and interpretations related to tax, including changes to the global tax framework, competition, and other laws and accounting rules in various jurisdictions. In addition, a number of countries have enacted or are actively pursuing changes to their tax laws applicable to corporate multinationals.

We are also currently subject to tax controversies in various jurisdictions, and these jurisdictions may assess additional income tax liabilities against us. Developments in an audit, investigation, or other tax controversy could have a material effect on our operating results or cash flows in the period or periods for which that development occurs, as well as for prior and subsequent periods. We regularly assess the likelihood of an adverse outcome resulting from these proceedings to determine the adequacy of our tax accruals. Although we believe our tax estimates are reasonable, the final outcome of audits, investigations, and any other tax controversies could be materially different from our historical income tax provisions and accruals.

Liquidity and Capital Resources

Cash flow information is as follows (in millions):

	Year Ended December 31,	
	2019	2020
Cash provided by (used in):		
Operating activities	$ 38,514	$ 66,064
Investing activities	(24,281)	(59,611)
Financing activities	(10,066)	(1,104)

Our principal sources of liquidity are cash flows generated from operations and our cash, cash equivalents, and marketable securities balances, which, at fair value, were $55.0 billion and $84.4 billion as of December 31, 2019 and 2020. Amounts held in foreign currencies were $15.3 billion and $23.5 billion as of December 31, 2019 and 2020, and were primarily Euros, British Pounds, and Japanese Yen.

Cash provided by (used in) operating activities was $38.5 billion and $66.1 billion in 2019 and 2020. Our operating cash flows result primarily from cash received from our consumer, seller, developer, enterprise, and content creator customers, and advertisers, offset by cash payments we make for products and services, employee compensation, payment processing and related transaction costs, operating leases, and interest payments on our long-term obligations. Cash received from our customers and other activities generally corresponds to our net sales. Because consumers primarily use credit cards to buy from us, our receivables from consumers settle quickly. The increase in operating cash flow in 2020, compared to the prior year, was primarily due to the increase in net income, excluding non-cash expenses, and changes in working capital. Working capital at any specific point in time is subject to many variables, including variability in demand, inventory management and category expansion, the timing of cash receipts and payments, vendor payment terms, and fluctuations in foreign exchange rates.

Cash provided by (used in) investing activities corresponds with cash capital expenditures, including leasehold improvements, incentives received from property and equipment vendors, proceeds from asset sales, cash outlays for acquisitions, investments in other companies and intellectual property rights, and purchases, sales, and maturities of marketable securities. Cash provided by (used in) investing activities was $(24.3) billion and $(59.6) billion in 2019 and 2020, with the variability caused primarily by our decision to purchase or lease property and equipment, and purchases, maturities, and sales of marketable securities. Cash capital expenditures were $12.7 billion, and $35.0 billion in 2019 and 2020, which primarily reflect investments in additional capacity to support our fulfillment operations and in support of continued business growth in technology infrastructure (the majority of which is to support AWS), which investments we expect to continue over time. We made cash payments, net of acquired cash, related to acquisition and other investment activity of $2.5 billion and $2.3 billion in 2019 and 2020.

Cash provided by (used in) financing activities was $(10.1) billion and $(1.1) billion in 2019 and 2020. Cash inflows from financing activities resulted from proceeds of short-term debt, and other and long-term-debt of $2.3 billion and $17.3 billion in 2019 and 2020. Cash outflows from financing activities resulted from payments of short-term debt, and other, long-term debt, finance leases, and financing obligations of $12.3 billion and $18.4 billion in 2019 and 2020. Property and equipment acquired under finance leases was $13.7 billion and $11.6 billion in 2019 and 2020, reflecting investments in support of continued business growth primarily due to investments in technology infrastructure for AWS.

We had no borrowings outstanding under the unsecured revolving credit facility (the "Credit Agreement"), $725 million of borrowings outstanding under the commercial paper program (the "Commercial Paper Program"), and $338 million of borrowings outstanding under our secured revolving credit facility (the "Credit Facility") as of December 31, 2020. See Item 8 of Part II, "Financial Statements and Supplementary Data — Note 6 — Debt" for additional information.

As of December 31, 2020, cash, cash equivalents, and marketable securities held by foreign subsidiaries were $17.2 billion. We intend to invest substantially all of our foreign subsidiary earnings, as well as our capital in our foreign subsidiaries, indefinitely outside of the U.S. in those jurisdictions in which we would incur significant, additional costs upon repatriation of such amounts.

Tax benefits relating to excess stock-based compensation deductions and accelerated depreciation deductions are reducing our U.S. taxable income, and all remaining federal tax credits, which were primarily related to the U.S. federal research and development credit, reduced our federal tax liability in 2020. U.S. tax rules provide for enhanced accelerated depreciation deductions by allowing the election of full expensing of qualified property, primarily equipment, through 2022. Our federal tax provision included the election of full expensing of qualified property for 2018 and 2019 and a partial election for 2020. Cash taxes paid (net of refunds) were $881 million and $1.7 billion for 2019 and 2020. We endeavor to manage our global taxes on a cash basis, rather than on a financial reporting basis. In connection with the European Commission's October 2017 decision against us on state aid, Luxembourg tax authorities computed an initial recovery amount, consistent with the

European Commission's decision, of approximately €250 million, that we deposited into escrow in March 2018, subject to adjustment pending conclusion of all appeals.

As of December 31, 2019 and 2020, restricted cash, cash equivalents, and marketable securities were $321 million and $257 million. See Item 8 of Part II, "Financial Statements and Supplementary Data — Note 7 — Commitments and Contingencies" for additional discussion of our principal contractual commitments, as well as our pledged assets. Additionally, purchase obligations and open purchase orders, consisting of inventory and significant non-inventory commitments, were $26.6 billion as of December 31, 2020. These purchase obligations and open purchase orders are generally cancellable in full or in part through the contractual provisions.

We believe that cash flows generated from operations and our cash, cash equivalents, and marketable securities balances, as well as our borrowing arrangements, will be sufficient to meet our anticipated operating cash needs for at least the next twelve months. However, any projections of future cash needs and cash flows are subject to substantial uncertainty. See Item 1A of Part I, "Risk Factors." We continually evaluate opportunities to sell additional equity or debt securities, obtain credit facilities, obtain finance and operating lease arrangements, enter into financing obligations, repurchase common stock, pay dividends, or repurchase, refinance, or otherwise restructure our debt for strategic reasons or to further strengthen our financial position.

The COVID-19 pandemic and resulting global disruptions have caused significant market volatility. These disruptions can contribute to defaults in our accounts receivable, affect asset valuations resulting in impairment charges, and affect the availability of lease and financing credit as well as other segments of the credit markets. We have utilized a range of financing methods to fund our operations and capital expenditures and expect to continue to maintain financing flexibility in the current market conditions. However, due to the rapidly evolving global situation, it is not possible to predict whether unanticipated consequences of the pandemic are reasonably likely to materially affect our liquidity and capital resources in the future.

The sale of additional equity or convertible debt securities would be dilutive to our shareholders. In addition, we will, from time to time, consider the acquisition of, or investment in, complementary businesses, products, services, capital infrastructure, and technologies, which might affect our liquidity requirements or cause us to secure additional financing, or issue additional equity or debt securities. There can be no assurance that additional credit lines or financing instruments will be available in amounts or on terms acceptable to us, if at all.

Results of Operations

We have organized our operations into three segments: North America, International, and AWS. These segments reflect the way the Company evaluates its business performance and manages its operations. See Item 8 of Part II, "Financial Statements and Supplementary Data — Note 10 — Segment Information."

Effects of COVID-19

As reflected in the discussion below, the impact of the COVID-19 pandemic and actions taken in response to it had varying effects on our 2020 results of operations. Higher net sales in the North America and International segments reflect increased demand, particularly as people are staying at home, including for household staples and other essential and home products, partially offset by fulfillment network capacity and supply chain constraints. Other effects in the North America and International segments include increased fulfillment costs and cost of sales as a percentage of net sales, primarily due to the impact of lower productivity, increased employee hiring and benefits, and costs to maintain safe workplaces.

We expect the effects of fulfillment network capacity and supply chain constraints, elevated collection risk in our accounts receivable, and increased fulfillment costs and cost of sales as a percentage of net sales to continue into all or portions of Q1 2021. However, it is not possible to determine the duration and scope of the pandemic, including any recurrence, the actions taken in response to the pandemic, the scale and rate of economic recovery from the pandemic, any ongoing effects on consumer demand and spending patterns, or other impacts of the pandemic, and whether these or other currently unanticipated consequences of the pandemic are reasonably likely to materially affect our results of operations.

Net Sales

Net sales include product and service sales. Product sales represent revenue from the sale of products and related shipping fees and digital media content where we record revenue gross. Service sales primarily represent third-party seller fees, which includes commissions and any related fulfillment and shipping fees, AWS sales, advertising services, Amazon Prime membership fees, and certain digital content subscriptions. Net sales information is as follows (in millions):

	Year Ended December 31,	
	2019	2020
Net Sales:		
North America	$ 170,773	$ 236,282
International	74,723	104,412
AWS	35,026	45,370
Consolidated	$ 280,522	$ 386,064
Year-over-year Percentage Growth:		
North America	21 %	38 %
International	13	40
AWS	37	30
Consolidated	20	38
Year-over-year Percentage Growth, excluding the effect of foreign exchange rates:		
North America	21 %	38 %
International	17	38
AWS	37	30
Consolidated	22	37
Net sales mix:		
North America	61 %	61 %
International	27	27
AWS	12	12
Consolidated	100 %	100 %

Sales increased 38% in 2020, compared to the prior year. Changes in foreign currency exchange rates impacted net sales by $(2.6) billion and $1.4 billion for 2019 and 2020. For a discussion of the effect of foreign exchange rates on sales growth, see “Effect of Foreign Exchange Rates” below.

North America sales increased 38% in 2020, compared to the prior year. The sales growth primarily reflects increased unit sales, including sales by third-party sellers. Increased unit sales were driven largely by our continued efforts to reduce prices for our customers, including from our shipping offers, and increased demand, including for household staples and other essential and home products, partially offset by fulfillment network capacity and supply chain constraints.

International sales increased 40% in 2020, compared to the prior year. The sales growth primarily reflects increased unit sales, including sales by third-party sellers. Increased unit sales were driven largely by our continued efforts to reduce prices for our customers, including from our shipping offers, and increased demand, including for household staples and other essential and home products, partially offset by fulfillment network capacity and supply chain constraints. Changes in foreign currency exchange rates impacted International net sales by $(2.4) billion and $1.7 billion in 2019 and 2020.

AWS sales increased 30% in 2020, compared to the prior year. The sales growth primarily reflects increased customer usage, partially offset by pricing changes. Pricing changes were driven largely by our continued efforts to reduce prices for our customers.

Operating Income (Loss)

Operating income (loss) by segment is as follows (in millions):

	Year Ended December 31,	
	2019	2020
Operating Income (Loss):		
North America	$ 7,033	$ 8,651
International	(1,693)	717
AWS	9,201	13,531
Consolidated	$ 14,541	$ 22,899

Operating income was $14.5 billion and $22.9 billion for 2019 and 2020. We believe that operating income (loss) is a more meaningful measure than gross profit and gross margin due to the diversity of our product categories and services.

The increase in North America operating income in absolute dollars in 2020, compared to the prior year, is primarily due to increased unit sales, including sales by third-party sellers, and advertising sales and slower growth in certain operating expenses, partially offset by increased shipping and fulfillment costs due in part to COVID-19. We expect North America operating income to continue to be negatively impacted through at least Q1 2021 by COVID-19 related costs. Changes in foreign exchange rates impacted operating income by $23 million and $8 million for 2019 and 2020.

The International operating income in 2020, as compared to the operating loss in the prior year, is primarily due to increased unit sales, including sales by third-party sellers, and advertising sales, and slower growth in certain operating expenses, partially offset by increased shipping and fulfillment costs due in part to COVID-19. We expect International operating income to continue to be negatively impacted through at least Q1 2021 by COVID-19 related costs. Changes in foreign exchange rates impacted operating income (loss) by $(116) million and $411 million for 2019 and 2020.

The increase in AWS operating income in absolute dollars in 2020, compared to the prior year, is primarily due to increased customer usage and cost structure productivity, including a reduction in depreciation and amortization expense from our change in the estimated useful life of our servers, partially offset by increased payroll and related expenses and spending on technology infrastructure, both of which were primarily driven by additional investments to support the business growth, and reduced prices for our customers. Changes in foreign exchange rates impacted operating income by $273 million and $30 million for 2019 and 2020.

Operating Expenses

Information about operating expenses is as follows (in millions):

	Year Ended December 31,	
	2019	2020
Operating expenses:		
Cost of sales	$ 165,536	$ 233,307
Fulfillment	40,232	58,517
Technology and content	35,931	42,740
Marketing	18,878	22,008
General and administrative	5,203	6,668
Other operating expense (income), net	201	(75)
Total operating expenses	$ 265,981	$ 363,165
Year-over-year Percentage Growth:		
Cost of sales	19 %	41 %
Fulfillment	18	45
Technology and content	25	19
Marketing	37	17
General and administrative	20	28
Other operating expense (income), net	(32)	(137)
Percent of Net Sales:		
Cost of sales	59.0 %	60.4 %
Fulfillment	14.3	15.2
Technology and content	12.8	11.1
Marketing	6.7	5.7
General and administrative	1.9	1.7
Other operating expense (income), net	0.1	—

Cost of Sales

Cost of sales primarily consists of the purchase price of consumer products, inbound and outbound shipping costs, including costs related to sortation and delivery centers and where we are the transportation service provider, and digital media content costs where we record revenue gross, including video and music.

The increase in cost of sales in absolute dollars in 2020, compared to the prior year, is primarily due to increased product and shipping costs resulting from increased sales. We expect cost of sales as a percentage of net sales to continue to be negatively impacted through at least Q1 2021 by COVID-19 related costs.

Shipping costs to receive products from our suppliers are included in our inventory and recognized as cost of sales upon sale of products to our customers. Shipping costs, which include sortation and delivery centers and transportation costs, were $37.9 billion and $61.1 billion in 2019 and 2020. We expect our cost of shipping to continue to increase to the extent our customers accept and use our shipping offers at an increasing rate, we use more expensive shipping methods, including faster delivery, and we offer additional services. We seek to mitigate costs of shipping over time in part through achieving higher sales volumes, optimizing our fulfillment network, negotiating better terms with our suppliers, and achieving better operating efficiencies. We believe that offering low prices to our customers is fundamental to our future success, and one way we offer lower prices is through shipping offers.

Costs to operate our AWS segment are primarily classified as “Technology and content” as we leverage a shared infrastructure that supports both our internal technology requirements and external sales to AWS customers.

Fulfillment

Fulfillment costs primarily consist of those costs incurred in operating and staffing our North America and International fulfillment centers, physical stores, and customer service centers and payment processing costs. While AWS payment processing and related transaction costs are included in "Fulfillment," AWS costs are primarily classified as "Technology and content." Fulfillment costs as a percentage of net sales may vary due to several factors, such as payment processing and related transaction costs, our level of productivity and accuracy, changes in volume, size, and weight of units received and fulfilled, the extent to which third party sellers utilize Fulfillment by Amazon services, timing of fulfillment network and physical store expansion, the extent we utilize fulfillment services provided by third parties, mix of products and services sold, and our ability to affect customer service contacts per unit by implementing improvements in our operations and enhancements to our customer self-service features. Additionally, sales by our sellers have higher payment processing and related transaction costs as a percentage of net sales compared to our retail sales because payment processing costs are based on the gross purchase price of underlying transactions.

The increase in fulfillment costs in absolute dollars in 2020, compared to the prior year, is primarily due to variable costs corresponding with increased product and service sales volume and inventory levels, costs from expanding our fulfillment network, and the COVID-19 related impact of lower productivity, increased employee hiring and benefits, and costs to maintain safe workplaces. We expect fulfillment costs as a percentage of net sales to continue to be negatively impacted through at least Q1 2021 by COVID-19 related costs.

We seek to expand our fulfillment network to accommodate a greater selection and in-stock inventory levels and to meet anticipated shipment volumes from sales of our own products as well as sales by third parties for which we provide the fulfillment services. We regularly evaluate our facility requirements.

Technology and Content

Technology and content costs include payroll and related expenses for employees involved in the research and development of new and existing products and services, development, design, and maintenance of our stores, curation and display of products and services made available in our online stores, and infrastructure costs. Infrastructure costs include servers, networking equipment, and data center related depreciation and amortization, rent, utilities, and other expenses necessary to support AWS and other Amazon businesses. Collectively, these costs reflect the investments we make in order to offer a wide variety of products and services to our customers.

We seek to invest efficiently in numerous areas of technology and content so we may continue to enhance the customer experience and improve our process efficiency through rapid technology developments, while operating at an ever increasing scale. Our technology and content investment and capital spending projects often support a variety of product and service offerings due to geographic expansion and the cross-functionality of our systems and operations. We expect spending in technology and content to increase over time as we continue to add employees and technology infrastructure. These costs are allocated to segments based on usage. The increase in technology and content costs in absolute dollars in 2020, compared to the prior year, is primarily due to increased payroll and related costs associated with technical teams responsible for expanding our existing products and services and initiatives to introduce new products and service offerings and an increase in spending on technology infrastructure, offset by a reduction in depreciation and amortization expense from our change in the estimated useful life of our servers. See Item 8 of Part II, "Financial Statements and Supplementary Data — Note 1 — Description of Business, Accounting Policies, and Supplemental Disclosures — Use of Estimates" for additional information on our change in estimated useful life of our servers.

Marketing

Marketing costs include advertising and payroll and related expenses for personnel engaged in marketing and selling activities, including sales commissions related to AWS. We direct customers to our stores primarily through a number of marketing channels, such as our sponsored search, third party customer referrals, social and online advertising, television advertising, and other initiatives. Our marketing costs are largely variable, based on growth in sales and changes in rates. To the extent there is increased or decreased competition for these traffic sources, or to the extent our mix of these channels shifts, we would expect to see a corresponding change in our marketing costs.

The increase in marketing costs in absolute dollars in 2020, compared to the prior year, is primarily due to increased payroll and related expenses for personnel engaged in marketing and selling activities, partially offset by lower spending on marketing channels as a result of COVID-19.

While costs associated with Amazon Prime membership benefits and other shipping offers are not included in marketing expense, we view these offers as effective worldwide marketing tools, and intend to continue offering them indefinitely.

General and Administrative

The increase in general and administrative costs in absolute dollars in 2020, compared to the prior year, is primarily due to increases in payroll and related expenses and professional service fees.

Other Operating Expense (Income), Net

Other operating expense (income), net was $201 million and $(75) million during 2019 and 2020, and was primarily related to a benefit from accelerated vesting of warrants to acquire equity of a vendor in Q4 2020, offset by a lease impairment in Q2 2020 and the amortization of intangible assets.

Interest Income and Expense

Our interest income was $832 million and $555 million during 2019 and 2020. We generally invest our excess cash in AAA-rated money market funds and investment grade short- to intermediate-term fixed income securities. Our interest income corresponds with the average balance of invested funds based on the prevailing rates, which vary depending on the geographies and currencies in which they are invested.

Interest expense was $1.6 billion in 2019 and 2020 and was primarily related to debt and finance leases.

Our long-term lease liabilities were $39.8 billion and $52.6 billion as of December 31, 2019 and 2020. Our long-term debt was $23.4 billion and $31.8 billion as of December 31, 2019 and 2020. See Item 8 of Part II, “Financial Statements and Supplementary Data — Note 4 — Leases and Note 6 — Debt” for additional information.

Other Income (Expense), Net

Other income (expense), net was $203 million and $2.4 billion during 2019 and 2020. The primary components of other income (expense), net are related to equity warrant valuations, equity securities valuations and adjustments, and foreign currency.

Income Taxes

Our effective tax rate is subject to significant variation due to several factors, including variability in our pre-tax and taxable income and loss and the mix of jurisdictions to which they relate, intercompany transactions, the applicability of special tax regimes, changes in how we do business, acquisitions, investments, audit-related developments, changes in our stock price, changes in our deferred tax assets and liabilities and their valuation, foreign currency gains (losses), changes in statutes, regulations, case law, and administrative practices, principles, and interpretations related to tax, including changes to the global tax framework, competition, and other laws and accounting rules in various jurisdictions, and relative changes of expenses or losses for which tax benefits are not recognized. Our effective tax rate can be more or less volatile based on the amount of pre-tax income or loss. For example, the impact of discrete items and non-deductible expenses on our effective tax rate is greater when our pre-tax income is lower. In addition, we record valuation allowances against deferred tax assets when there is uncertainty about our ability to generate future income in relevant jurisdictions, and the effects of the COVID-19 pandemic on our business make estimates of future income more challenging.

We recorded a provision for income taxes of $2.4 billion and $2.9 billion in 2019 and 2020. See Item 8 of Part II, “Financial Statements and Supplementary Data — Note 9 — Income Taxes” for additional information.

Non-GAAP Financial Measures

Regulation G, Conditions for Use of Non-GAAP Financial Measures, and other SEC regulations define and prescribe the conditions for use of certain non-GAAP financial information. Our measures of free cash flows and the effect of foreign exchange rates on our consolidated statements of operations meet the definition of non-GAAP financial measures.

We provide multiple measures of free cash flows because we believe these measures provide additional perspective on the impact of acquiring property and equipment with cash and through finance leases and financing obligations.

Free Cash Flow

Free cash flow is cash flow from operations reduced by "Purchases of property and equipment, net of proceeds from sales and incentives." The following is a reconciliation of free cash flow to the most comparable GAAP cash flow measure, "Net cash provided by (used in) operating activities," for 2019 and 2020 (in millions):

	Year Ended December 31,	
	2019	2020
Net cash provided by (used in) operating activities	$ 38,514	$ 66,064
Purchases of property and equipment, net of proceeds from sales and incentives	(12,689)	(35,044)
Free cash flow	$ 25,825	$ 31,020
Net cash provided by (used in) investing activities	$ (24,281)	$ (59,611)
Net cash provided by (used in) financing activities	$ (10,066)	$ (1,104)

Free Cash Flow Less Principal Repayments of Finance Leases and Financing Obligations

Free cash flow less principal repayments of finance leases and financing obligations is free cash flow reduced by "Principal repayments of finance leases" and "Principal repayments of financing obligations." Principal repayments of finance leases and financing obligations approximates the actual payments of cash for our finance leases and financing obligations. The following is a reconciliation of free cash flow less principal repayments of finance leases and financing obligations to the most comparable GAAP cash flow measure, "Net cash provided by (used in) operating activities," for 2019 and 2020 (in millions):

	Year Ended December 31,	
	2019	2020
Net cash provided by (used in) operating activities	$ 38,514	$ 66,064
Purchases of property and equipment, net of proceeds from sales and incentives	(12,689)	(35,044)
Free cash flow	25,825	31,020
Principal repayments of finance leases	(9,628)	(10,642)
Principal repayments of financing obligations	(27)	(53)
Free cash flow less principal repayments of finance leases and financing obligations	$ 16,170	$ 20,325
Net cash provided by (used in) investing activities	$ (24,281)	$ (59,611)
Net cash provided by (used in) financing activities	$ (10,066)	$ (1,104)

Free Cash Flow Less Equipment Finance Leases and Principal Repayments of All Other Finance Leases and Financing Obligations

Free cash flow less equipment finance leases and principal repayments of all other finance leases and financing obligations is free cash flow reduced by equipment acquired under finance leases, which is included in "Property and equipment acquired under finance leases," principal repayments of all other finance lease liabilities, which is included in "Principal repayments of finance leases," and "Principal repayments of financing obligations." All other finance lease liabilities and financing obligations consists of property. In this measure, equipment acquired under finance leases is reflected as if these assets had been purchased with cash, which is not the case as these assets have been leased. The following is a reconciliation of free cash flow less equipment finance leases and principal repayments of all other finance leases and financing obligations to the most comparable GAAP cash flow measure, "Net cash provided by (used in) operating activities," for 2019 and 2020 (in millions):

	Year Ended December 31,	
	2019	2020
Net cash provided by (used in) operating activities	$ 38,514	$ 66,064
Purchases of property and equipment, net of proceeds from sales and incentives	(12,689)	(35,044)
Free cash flow	25,825	31,020
Equipment acquired under finance leases (1)	(12,916)	(9,104)
Principal repayments of all other finance leases (2)	(392)	(427)
Principal repayments of financing obligations	(27)	(53)
Free cash flow less equipment finance leases and principal repayments of all other finance leases and financing obligations	$ 12,490	$ 21,436
Net cash provided by (used in) investing activities	$ (24,281)	$ (59,611)
Net cash provided by (used in) financing activities	$ (10,066)	$ (1,104)

(1) For the year ended December 31, 2019 and 2020, this amount relates to equipment included in "Property and equipment acquired under finance leases" of $13,723 million and $11,588 million.
(2) For the year ended December 31, 2019 and 2020, this amount relates to property included in "Principal repayments of finance leases" of $9,628 million and $10,642 million.

All of these free cash flows measures have limitations as they omit certain components of the overall cash flow statement and do not represent the residual cash flow available for discretionary expenditures. For example, these measures of free cash flows do not incorporate the portion of payments representing principal reductions of debt or cash payments for business acquisitions. Additionally, our mix of property and equipment acquisitions with cash or other financing options may change over time. Therefore, we believe it is important to view free cash flows measures only as a complement to our entire consolidated statements of cash flows.

Effect of Foreign Exchange Rates

Information regarding the effect of foreign exchange rates, versus the U.S. Dollar, on our net sales, operating expenses, and operating income is provided to show reported period operating results had the foreign exchange rates remained the same as those in effect in the comparable prior year periods. The effect on our net sales, operating expenses, and operating income from changes in our foreign exchange rates versus the U.S. Dollar is as follows (in millions):

	Year Ended December 31, 2019			Year Ended December 31, 2020		
	As Reported	Exchange Rate Effect (1)	At Prior Year Rates (2)	As Reported	Exchange Rate Effect (1)	At Prior Year Rates (2)
Net sales	$ 280,522	$ 2,560	$ 283,082	$ 386,064	$ (1,438)	$ 384,626
Operating expenses	265,981	2,740	268,721	363,165	(989)	362,176
Operating income	14,541	(180)	14,361	22,899	(449)	22,450

(1) Represents the change in reported amounts resulting from changes in foreign exchange rates from those in effect in the comparable prior year period for operating results.

(2) Represents the outcome that would have resulted had foreign exchange rates in the reported period been the same as those in effect in the comparable prior year period for operating results.

Guidance

We provided guidance on February 2, 2021, in our earnings release furnished on Form 8-K as set forth below. These forward-looking statements reflect Amazon.com's expectations as of February 2, 2021, and are subject to substantial uncertainty. Our results are inherently unpredictable and may be materially affected by many factors, such as fluctuations in foreign exchange rates, changes in global economic conditions and customer spending, world events, the rate of growth of the Internet, online commerce, and cloud services, as well as those outlined in Item 1A of Part I, "Risk Factors." This guidance reflects our estimates as of February 2, 2021 regarding the impact of the COVID-19 pandemic on our operations, including those discussed above, and is highly dependent on numerous factors that we may not be able to predict or control, including: the duration and scope of the pandemic, including any recurrence; actions taken by governments, businesses, and individuals in response to the pandemic; the impact of the pandemic on global and regional economies and economic activity, workforce staffing and productivity, and our significant and continuing spending on employee safety measures; our ability to continue operations in affected areas; and consumer demand and spending patterns, as well as the effects on suppliers, creditors, and third-party sellers, all of which are uncertain. This guidance also assumes the impacts on consumer demand and spending patterns, including impacts due to concerns over the current economic outlook, will be in line with those experienced during the first quarter of 2021 to date, and the additional assumptions set forth below. However, it is not possible to determine the ultimate impact on our operations for the first quarter of 2021, or whether other currently unanticipated direct or indirect consequences of the pandemic are reasonably likely to materially affect our operations.

First Quarter 2021 Guidance

- Net sales are expected to be between $100.0 billion and $106.0 billion, or to grow between 33% and 40% compared with first quarter 2020. This guidance anticipates a favorable impact of approximately 300 basis points from foreign exchange rates.
- Operating income is expected to be between $3.0 billion and $6.5 billion, compared with $4.0 billion in first quarter 2020. This guidance assumes approximately $2.0 billion of costs related to COVID-19.
- This guidance assumes, among other things, that no additional business acquisitions, investments, restructurings, or legal settlements are concluded.

Item 7A. ***Quantitative and Qualitative Disclosures About Market Risk***

We are exposed to market risk for the effect of interest rate changes, foreign currency fluctuations, and changes in the market values of our investments. Information relating to quantitative and qualitative disclosures about market risk is set forth below and in Item 7 of Part II, "Management's Discussion and Analysis of Financial Condition and Results of Operations — Liquidity and Capital Resources."

Interest Rate Risk

Our exposure to market risk for changes in interest rates relates primarily to our investment portfolio and our long-term debt. Our long-term debt is carried at amortized cost and fluctuations in interest rates do not impact our consolidated financial statements. However, the fair value of our debt, which pays interest at a fixed rate, will generally fluctuate with movements of interest rates, increasing in periods of declining rates of interest and declining in periods of increasing rates of interest.

We generally invest our excess cash in AAA-rated money market funds and investment grade short- to intermediate-term fixed income securities. Fixed income securities may have their fair market value adversely affected due to a rise in interest rates, and we may suffer losses in principal if forced to sell securities that have declined in market value due to changes in interest rates. The following table provides information about our cash equivalents and marketable fixed income securities, including principal cash flows by expected maturity and the related weighted-average interest rates as of December 31, 2020 (in millions, except percentages):

	2021	2022	2023	2024	2025	Thereafter	Total	Estimated Fair Value as of December 31, 2020
Money market funds	$ 27,430	$ —	$ —	$ —	$ —	$ —	$ 27,430	$ 27,430
Weighted average interest rate	(0.16)%	— %	— %	— %	— %	— %	(0.16)%	
Corporate debt securities	16,505	4,459	5,531	1,990	886	—	29,371	29,988
Weighted average interest rate	0.42 %	1.65 %	1.32 %	1.86 %	1.84 %		0.92 %	
U.S. government and agency securities	5,439	587	899	298	67	71	7,361	7,439
Weighted average interest rate	0.30 %	1.38 %	1.12 %	1.74 %	1.13 %	2.97 %	0.58 %	
Asset-backed securities	870	773	472	763	243	46	3,167	3,235
Weighted average interest rate	2.08 %	2.00 %	1.53 %	2.13 %	1.57 %	1.25 %	1.94 %	
Foreign government and agency securities	4,932	147	45	3	—	—	5,127	5,131
Weighted average interest rate	0.25 %	0.74 %	1.28 %	1.76 %	— %	— %	0.28 %	
Other fixed income securities	109	156	230	160	43	—	698	710
Weighted average interest rate	2.10 %	1.85 %	1.10 %	0.84 %	1.31 %	— %	1.38 %	
	$ 55,285	$ 6,122	$ 7,177	$ 3,214	$ 1,239	$ 117	$ 73,154	
Cash equivalents and marketable fixed income securities								$ 73,933

As of December 31, 2020, we had long-term debt with a face value of $33.2 billion, including the current portion, primarily consisting of fixed rate unsecured senior notes. See Item 8 of Part II, "Financial Statements and Supplementary Data — Note 6 — Debt" for additional information.

Foreign Exchange Risk

During 2020, net sales from our International segment accounted for 27% of our consolidated revenues. Net sales and related expenses generated from our internationally-focused stores, including within Canada and Mexico (which are included in our North America segment), are primarily denominated in the functional currencies of the corresponding stores and primarily include Euros, British Pounds, and Japanese Yen. The results of operations of, and certain of our intercompany balances associated with, our internationally-focused stores and AWS are exposed to foreign exchange rate fluctuations. Upon consolidation, as foreign exchange rates vary, net sales and other operating results may differ materially from expectations, and we may record significant gains or losses on the remeasurement of intercompany balances. For example, as a result of fluctuations in foreign exchange rates throughout the year compared to rates in effect the prior year, International segment net sales increased by $1.7 billion in comparison with the prior year.

We have foreign exchange risk related to foreign-denominated cash, cash equivalents, and marketable securities ("foreign funds"). Based on the balance of foreign funds as of December 31, 2020, of $23.5 billion, an assumed 5%, 10%, and 20% adverse change to foreign exchange would result in fair value declines of $1.2 billion, $2.4 billion, and $4.7 billion. Fluctuations in fair value are recorded in "Accumulated other comprehensive income (loss)," a separate component of stockholders' equity. Equity securities with readily determinable fair values are included in "Marketable securities" on our consolidated balance sheets and are measured at fair value with changes recognized in net income.

We have foreign exchange risk related to our intercompany balances denominated in various foreign currencies. Based on the intercompany balances as of December 31, 2020, an assumed 5%, 10%, and 20% adverse change to foreign exchange rates would result in losses of $245 million, $485 million, and $970 million, recorded to "Other income (expense), net."

See Item 7 of Part II, "Management's Discussion and Analysis of Financial Condition and Results of Operations — Results of Operations — Effect of Foreign Exchange Rates" for additional information on the effect on reported results of changes in foreign exchange rates.

Equity Investment Risk

As of December 31, 2020, our recorded value in equity and equity warrant investments in public and private companies was $6.9 billion. Our equity and equity warrant investments in publicly traded companies represent $3.2 billion of our investments as of December 31, 2020, and are recorded at fair value, which is subject to market price volatility. We assess our equity investments in private companies for impairment. Valuations of private companies are inherently more complex due to the lack of readily available market data. The current global economic climate provides additional uncertainty. As such, we believe that market sensitivities are not practicable.

Item 8. ***Financial Statements and Supplementary Data***

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Report of Independent Registered Public Accounting Firm

The Board of Directors and Shareholders
Amazon.com, Inc.

Opinion on the Financial Statements

We have audited the accompanying consolidated balance sheets of Amazon.com, Inc. (the Company) as of December 31, 2020 and 2019, and the related consolidated statements of operations, comprehensive income, stockholders' equity, and cash flows for each of the three years in the period ended December 31, 2020 and the related notes (collectively referred to as the "consolidated financial statements"). In our opinion, the consolidated financial statements present fairly, in all material respects, the financial position of the Company at December 31, 2020 and 2019, and the results of its operations and its cash flows for each of the three years in the period ended December 31, 2020, in conformity with U.S. generally accepted accounting principles.

We also have audited, in accordance with the standards of the Public Company Accounting Oversight Board (United States) (PCAOB), the Company's internal control over financial reporting as of December 31, 2020, based on criteria established in Internal Control — Integrated Framework issued by the Committee of Sponsoring Organizations of the Treadway Commission (2013 framework) and our report dated February 2, 2021 expressed an unqualified opinion thereon.

Basis for Opinion

These consolidated financial statements are the responsibility of the Company's management. Our responsibility is to express an opinion on the Company's consolidated financial statements based on our audits. We are a public accounting firm registered with the PCAOB and are required to be independent with respect to the Company in accordance with the U.S. federal securities laws and the applicable rules and regulations of the Securities and Exchange Commission and the PCAOB.

We conducted our audits in accordance with the standards of the PCAOB. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the consolidated financial statements are free of material misstatement, whether due to error or fraud. Our audits included performing procedures to assess the risks of material misstatement of the consolidated financial statements, whether due to error or fraud, and performing procedures that respond to those risks. Such procedures included examining, on a test basis, evidence regarding the amounts and disclosures in the consolidated financial statements. Our audits also included evaluating the accounting principles used and significant estimates made by management, as well as evaluating the overall presentation of the consolidated financial statements. We believe that our audits provide a reasonable basis for our opinion.

Critical Audit Matter

The critical audit matter communicated below is a matter arising from the current period audit of the consolidated financial statements that was communicated or required to be communicated to the audit committee and that: (1) relates to accounts or disclosures that are material to the consolidated financial statements and (2) involved our especially challenging, subjective, or complex judgments. The communication of the critical audit matter does not alter in any way our opinion on the consolidated financial statements, taken as a whole, and we are not, by communicating the critical audit matter below, providing a separate opinion on the critical audit matter or on the accounts or disclosures to which it relates.

Uncertain Tax Positions

Description of the Matter

The Company is subject to income taxes in the U.S. and numerous foreign jurisdictions and, as discussed in Note 9 of the consolidated financial statements, during the ordinary course of business, there are many tax positions for which the ultimate tax determination is uncertain. As a result, significant judgment is required in evaluating the Company's tax positions and determining its provision for income taxes. The Company uses significant judgment in (1) determining whether a tax position's technical merits are more likely than not to be sustained and (2) measuring the amount of tax benefit that qualifies for recognition. As of December 31, 2020, the Company accrued liabilities of $2.8 billion for various tax contingencies.

Auditing the measurement of the Company's tax contingencies was challenging because the evaluation of whether a tax position is more likely than not to be sustained and the measurement of the benefit of various tax positions can be complex, involves significant judgment, and is based on interpretations of tax laws and legal rulings.

How We Addressed the Matter in Our Audit

We tested controls over the Company's process to assess the technical merits of its tax contingencies, including controls over the assessment as to whether a tax position is more likely than not to be sustained, management's process to measure the benefit of its tax positions, and the development of the related disclosures.

We involved our international tax, transfer pricing, and research and development tax professionals in assessing the technical merits of certain of the Company's tax positions. Depending on the nature of the specific tax position and, as applicable, developments with the relevant tax authorities relating thereto, our procedures included obtaining and examining the Company's analysis including the Company's correspondence with such tax authorities and evaluating the underlying facts upon which the tax positions are based. We used our knowledge of, and experience with, international, transfer pricing, and other income tax laws by the relevant income tax authorities to evaluate the Company's accounting for its tax contingencies. We evaluated developments in the applicable regulatory environments to assess potential effects on the Company's positions, including recent decisions in relevant court cases. We analyzed the Company's assumptions and data used to determine the amount of tax benefits to recognize and tested the accuracy of the Company's calculations. We have also evaluated the Company's income tax disclosures included in Note 9 in relation to these matters.

/s/ Ernst & Young LLP

We have served as the Company's auditor since 1996.
Seattle, Washington
February 2, 2021

AMAZON.COM, INC.

CONSOLIDATED STATEMENTS OF CASH FLOWS
(in millions)

	Year Ended December 31,		
	2018	2019	2020
CASH, CASH EQUIVALENTS, AND RESTRICTED CASH, BEGINNING OF PERIOD	$ 21,856	$ 32,173	$ 36,410
OPERATING ACTIVITIES:			
Net income	10,073	11,588	21,331
Adjustments to reconcile net income to net cash from operating activities:			
Depreciation and amortization of property and equipment and capitalized content costs, operating lease assets, and other	15,341	21,789	25,251
Stock-based compensation	5,418	6,864	9,208
Other operating expense (income), net	274	164	(71)
Other expense (income), net	219	(249)	(2,582)
Deferred income taxes	441	796	(554)
Changes in operating assets and liabilities:			
Inventories	(1,314)	(3,278)	(2,849)
Accounts receivable, net and other	(4,615)	(7,681)	(8,169)
Accounts payable	3,263	8,193	17,480
Accrued expenses and other	472	(1,383)	5,754
Unearned revenue	1,151	1,711	1,265
Net cash provided by (used in) operating activities	30,723	38,514	66,064
INVESTING ACTIVITIES:			
Purchases of property and equipment	(13,427)	(16,861)	(40,140)
Proceeds from property and equipment sales and incentives	2,104	4,172	5,096
Acquisitions, net of cash acquired, and other	(2,186)	(2,461)	(2,325)
Sales and maturities of marketable securities	8,240	22,681	50,237
Purchases of marketable securities	(7,100)	(31,812)	(72,479)
Net cash provided by (used in) investing activities	(12,369)	(24,281)	(59,611)
FINANCING ACTIVITIES:			
Proceeds from short-term debt, and other	886	1,402	6,796
Repayments of short-term debt, and other	(813)	(1,518)	(6,177)
Proceeds from long-term debt	182	871	10,525
Repayments of long-term debt	(155)	(1,166)	(1,553)
Principal repayments of finance leases	(7,449)	(9,628)	(10,642)
Principal repayments of financing obligations	(337)	(27)	(53)
Net cash provided by (used in) financing activities	(7,686)	(10,066)	(1,104)
Foreign currency effect on cash, cash equivalents, and restricted cash	(351)	70	618
Net increase (decrease) in cash, cash equivalents, and restricted cash	10,317	4,237	5,967
CASH, CASH EQUIVALENTS, AND RESTRICTED CASH, END OF PERIOD	$ 32,173	$ 36,410	$ 42,377

See accompanying notes to consolidated financial statements.

AMAZON.COM, INC.

CONSOLIDATED STATEMENTS OF OPERATIONS
(in millions, except per share data)

	Year Ended December 31,		
	2018	2019	2020
Net product sales	$ 141,915	$ 160,408	$ 215,915
Net service sales	90,972	120,114	170,149
Total net sales	232,887	280,522	386,064
Operating expenses:			
Cost of sales	139,156	165,536	233,307
Fulfillment	34,027	40,232	58,517
Technology and content	28,837	35,931	42,740
Marketing	13,814	18,878	22,008
General and administrative	4,336	5,203	6,668
Other operating expense (income), net	296	201	(75)
Total operating expenses	220,466	265,981	363,165
Operating income	12,421	14,541	22,899
Interest income	440	832	555
Interest expense	(1,417)	(1,600)	(1,647)
Other income (expense), net	(183)	203	2,371
Total non-operating income (expense)	(1,160)	(565)	1,279
Income before income taxes	11,261	13,976	24,178
Provision for income taxes	(1,197)	(2,374)	(2,863)
Equity-method investment activity, net of tax	9	(14)	16
Net income	$ 10,073	$ 11,588	$ 21,331
Basic earnings per share	$ 20.68	$ 23.46	$ 42.64
Diluted earnings per share	$ 20.14	$ 23.01	$ 41.83
Weighted-average shares used in computation of earnings per share:			
Basic	487	494	500
Diluted	500	504	510

See accompanying notes to consolidated financial statements.

AMAZON.COM, INC.

CONSOLIDATED STATEMENTS OF COMPREHENSIVE INCOME
(in millions)

	Year Ended December 31,		
	2018	2019	2020
Net income	$ 10,073	$ 11,588	$ 21,331
Other comprehensive income (loss):			
Net change in foreign currency translation adjustments:			
Foreign currency translation adjustments, net of tax of $6, $(5), and $(36)	(538)	78	561
Reclassification adjustment for foreign currency translation included in "Other operating expense (income), net," net of tax of $0, $29, and $0	—	(108)	—
Net foreign currency translation adjustments	(538)	(30)	561
Net change in unrealized gains (losses) on available-for-sale debt securities:			
Unrealized gains (losses), net of tax of $0, $(12), and $(83)	(17)	83	273
Reclassification adjustment for losses (gains) included in "Other income (expense), net," net of tax of $0, $0, and $8	8	(4)	(28)
Net unrealized gains (losses) on available-for-sale debt securities	(9)	79	245
Total other comprehensive income (loss)	(547)	49	806
Comprehensive income	$ 9,526	$ 11,637	$ 22,137

See accompanying notes to consolidated financial statements.

AMAZON.COM, INC.

CONSOLIDATED BALANCE SHEETS
(in millions, except per share data)

	December 31,	
	2019	2020
ASSETS		
Current assets:		
Cash and cash equivalents	$ 36,092	$ 42,122
Marketable securities	18,929	42,274
Inventories	20,497	23,795
Accounts receivable, net and other	20,816	24,542
Total current assets	96,334	132,733
Property and equipment, net	72,705	113,114
Operating leases	25,141	37,553
Goodwill	14,754	15,017
Other assets	16,314	22,778
Total assets	$ 225,248	$ 321,195
LIABILITIES AND STOCKHOLDERS' EQUITY		
Current liabilities:		
Accounts payable	$ 47,183	$ 72,539
Accrued expenses and other	32,439	44,138
Unearned revenue	8,190	9,708
Total current liabilities	87,812	126,385
Long-term lease liabilities	39,791	52,573
Long-term debt	23,414	31,816
Other long-term liabilities	12,171	17,017
Commitments and contingencies (Note 7)		
Stockholders' equity:		
Preferred stock, $0.01 par value:		
Authorized shares — 500		
Issued and outstanding shares — none	—	—
Common stock, $0.01 par value:		
Authorized shares — 5,000		
Issued shares — 521 and 527		
Outstanding shares — 498 and 503	5	5
Treasury stock, at cost	(1,837)	(1,837)
Additional paid-in capital	33,658	42,865
Accumulated other comprehensive income (loss)	(986)	(180)
Retained earnings	31,220	52,551
Total stockholders' equity	62,060	93,404
Total liabilities and stockholders' equity	$ 225,248	$ 321,195

See accompanying notes to consolidated financial statements.

AMAZON.COM, INC.

CONSOLIDATED STATEMENTS OF STOCKHOLDERS' EQUITY
(in millions)

	Common Stock						
	Shares	Amount	Treasury Stock	Additional Paid-In Capital	Accumulated Other Comprehensive Income (Loss)	Retained Earnings	Total Stockholders' Equity
Balance as of January 1, 2018	484	$ 5	$ (1,837)	$ 21,389	$ (484)	$ 8,636	$ 27,709
Cumulative effect of change in accounting principles related to revenue recognition, income taxes, and financial instruments	—	—	—	—	(4)	916	912
Net income	—	—	—	—	—	10,073	10,073
Other comprehensive income (loss)	—	—	—	—	(547)	—	(547)
Exercise of common stock options	7	—	—	—	—	—	—
Stock-based compensation and issuance of employee benefit plan stock	—	—	—	5,402	—	—	5,402
Balance as of December 31, 2018	491	5	(1,837)	26,791	(1,035)	19,625	43,549
Cumulative effect of change in accounting principle related to leases	—	—	—	—	—	7	7
Net income	—	—	—	—	—	11,588	11,588
Other comprehensive income (loss)	—	—	—	—	49	—	49
Exercise of common stock options	7	—	—	—	—	—	—
Stock-based compensation and issuance of employee benefit plan stock	—	—	—	6,867	—	—	6,867
Balance as of December 31, 2019	498	5	(1,837)	33,658	(986)	31,220	62,060
Net income	—	—	—	—	—	21,331	21,331
Other comprehensive income (loss)	—	—	—	—	806	—	806
Exercise of common stock options	5	—	—	—	—	—	—
Stock-based compensation and issuance of employee benefit plan stock	—	—	—	9,207	—	—	9,207
Balance as of December 31, 2020	503	$ 5	$ (1,837)	$ 42,865	$ (180)	$ 52,551	$ 93,404

See accompanying notes to consolidated financial statements.

AMAZON.COM, INC.

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

Note 1 — DESCRIPTION OF BUSINESS, ACCOUNTING POLICIES, AND SUPPLEMENTAL DISCLOSURES

Description of Business

We seek to be Earth's most customer-centric company. In each of our segments, we serve our primary customer sets, consisting of consumers, sellers, developers, enterprises, and content creators. We serve consumers through our online and physical stores and focus on selection, price, and convenience. We offer programs that enable sellers to grow their businesses, sell their products in our stores, and fulfill orders through us, and programs that allow authors, musicians, filmmakers, skill and app developers, and others to publish and sell content. We serve developers and enterprises of all sizes through AWS, which offers a broad set of on-demand technology services, including compute, storage, database, analytics, and machine learning, and other services. We also manufacture and sell electronic devices. In addition, we provide services, such as advertising to sellers, vendors, publishers, authors, and others, through programs such as sponsored ads, display, and video advertising.

We have organized our operations into three segments: North America, International, and AWS. See "Note 10 — Segment Information."

Prior Period Reclassifications

Certain prior period amounts have been reclassified to conform to the current period presentation. "Proceeds from short-term debt, and other" were reclassified from "Proceeds from long-term debt and other" and "Repayments of short-term debt, and other" were reclassified from "Repayments of long-term debt and other" on our consolidated statements of cash flows.

Principles of Consolidation

The consolidated financial statements include the accounts of Amazon.com, Inc. and its consolidated entities (collectively, the "Company"), consisting of its wholly-owned subsidiaries and those entities in which we have a variable interest and of which we are the primary beneficiary, including certain entities in India and certain entities that support our seller lending financing activities. Intercompany balances and transactions between consolidated entities are eliminated.

Use of Estimates

The preparation of financial statements in conformity with GAAP requires estimates and assumptions that affect the reported amounts of assets and liabilities, revenues and expenses, and related disclosures of contingent liabilities in the consolidated financial statements and accompanying notes. Estimates are used for, but not limited to, income taxes, useful lives of equipment, commitments and contingencies, valuation of acquired intangibles and goodwill, stock-based compensation forfeiture rates, vendor funding, inventory valuation, collectability of receivables, and valuation and impairment of investments. Given the global economic climate and additional or unforeseen effects from the COVID-19 pandemic, these estimates have become more challenging, and actual results could differ materially from these estimates.

We review the useful lives of equipment on an ongoing basis, and effective January 1, 2020 we changed our estimate of the useful life for our servers from three years to four years. The longer useful life is due to continuous improvements in our hardware, software, and data center designs. The effect of this change in estimate for the year ended December 31, 2020, based on servers that were included in "Property and equipment, net" as of December 31, 2019 and those acquired during the year ended December 31, 2020, was a reduction in depreciation and amortization expense of $2.7 billion and an increase in net income of $2.0 billion, or $4.06 per basic share and $3.98 per diluted share.

Supplemental Cash Flow Information

The following table shows supplemental cash flow information (in millions):

	Year Ended December 31,		
	2018	2019	2020
SUPPLEMENTAL CASH FLOW INFORMATION:			
Cash paid for interest on debt	$ 854	$ 875	$ 916
Cash paid for operating leases	$ —	$ 3,361	$ 4,475
Cash paid for interest on finance leases	$ 381	$ 647	$ 612
Cash paid for interest on financing obligations	$ 194	$ 39	$ 102
Cash paid for income taxes, net of refunds	$ 1,184	$ 881	$ 1,713
Assets acquired under operating leases	$ —	$ 7,870	$ 16,217
Property and equipment acquired under finance leases	$ 10,615	$ 13,723	$ 11,588
Property and equipment acquired under build-to-suit arrangements	$ 3,641	$ 1,362	$ 2,267

Earnings per Share

Basic earnings per share is calculated using our weighted-average outstanding common shares. Diluted earnings per share is calculated using our weighted-average outstanding common shares including the dilutive effect of stock awards as determined under the treasury stock method. In periods when we have a net loss, stock awards are excluded from our calculation of earnings per share as their inclusion would have an antidilutive effect.

The following table shows the calculation of diluted shares (in millions):

	Year Ended December 31,		
	2018	2019	2020
Shares used in computation of basic earnings per share	487	494	500
Total dilutive effect of outstanding stock awards	13	10	10
Shares used in computation of diluted earnings per share	500	504	510

Revenue

Revenue is measured based on the amount of consideration that we expect to receive, reduced by estimates for return allowances, promotional discounts, and rebates. Revenue also excludes any amounts collected on behalf of third parties, including sales and indirect taxes. In arrangements where we have multiple performance obligations, the transaction price is allocated to each performance obligation using the relative stand-alone selling price. We generally determine stand-alone selling prices based on the prices charged to customers or using expected cost plus a margin.

A description of our principal revenue generating activities is as follows:

Retail sales - We offer consumer products through our online and physical stores. Revenue is recognized when control of the goods is transferred to the customer, which generally occurs upon our delivery to a third-party carrier or, in the case of an Amazon delivery, to the customer.

Third-party seller services - We offer programs that enable sellers to sell their products in our stores, and fulfill orders through us. We are not the seller of record in these transactions. The commissions and any related fulfillment and shipping fees we earn from these arrangements are recognized when the services are rendered, which generally occurs upon delivery of the related products to a third-party carrier or, in the case of an Amazon delivery, to the customer.

Subscription services - Our subscription sales include fees associated with Amazon Prime memberships and access to content including digital video, audiobooks, digital music, e-books, and other non-AWS subscription services. Prime memberships provide our customers with access to an evolving suite of benefits that represent a single stand-ready obligation. Subscriptions are paid for at the time of or in advance of delivering the services. Revenue from such arrangements is recognized over the subscription period.

AWS - Our AWS arrangements include global sales of compute, storage, database, and other services. Revenue is allocated to services using stand-alone selling prices and is primarily recognized when the customer uses these services, based on the quantity of services rendered, such as compute or storage capacity delivered on-demand. Certain services, including compute and database, are also offered as a fixed quantity over a specified term, for which revenue is recognized ratably. Sales commissions we pay in connection with contracts that exceed one year are capitalized and amortized over the contract term.

Other - Other revenue primarily includes sales of advertising services, which are recognized as ads are delivered based on the number of clicks or impressions.

Return Allowances

Return allowances, which reduce revenue and cost of sales, are estimated using historical experience. Liabilities for return allowances are included in "Accrued expenses and other" and were $623 million, $712 million, and $859 million as of December 31, 2018, 2019, and 2020. Additions to the allowance were $2.3 billion, $2.5 billion, and $3.5 billion and deductions from the allowance were $2.3 billion, $2.5 billion, and $3.6 billion in 2018, 2019, and 2020. Included in "Inventories" on our consolidated balance sheets are assets totaling $519 million, $629 million, and $852 million as of December 31, 2018, 2019, and 2020, for the rights to recover products from customers associated with our liabilities for return allowances.

Cost of Sales

Cost of sales primarily consists of the purchase price of consumer products, inbound and outbound shipping costs, including costs related to sortation and delivery centers and where we are the transportation service provider, and digital media content costs where we record revenue gross, including video and music. Shipping costs to receive products from our suppliers are included in our inventory, and recognized as cost of sales upon sale of products to our customers. Payment processing and related transaction costs, including those associated with seller transactions, are classified in "Fulfillment" on our consolidated statements of operations.

Vendor Agreements

We have agreements with our vendors to receive consideration primarily for cooperative marketing efforts, promotions, incentives, and volume rebates. We generally consider these amounts received from vendors to be a reduction of the prices we pay for their goods, including property and equipment, or services, and are recorded as a reduction of the cost of inventory, cost of services, or cost of property and equipment. Volume rebates typically depend on reaching minimum purchase thresholds. We evaluate the likelihood of reaching purchase thresholds using past experience and current year forecasts. When volume rebates can be reasonably estimated, we record a portion of the rebate as we make progress towards the purchase threshold.

Fulfillment

Fulfillment costs primarily consist of those costs incurred in operating and staffing our North America and International segments' fulfillment centers, physical stores, and customer service centers, including costs attributable to buying, receiving, inspecting, and warehousing inventories; picking, packaging, and preparing customer orders for shipment; payment processing and related transaction costs, including costs associated with our guarantee for certain seller transactions; responding to inquiries from customers; and supply chain management for our manufactured electronic devices. Fulfillment costs also include amounts paid to third parties that assist us in fulfillment and customer service operations.

Technology and Content

Technology and content costs include payroll and related expenses for employees involved in the research and development of new and existing products and services, development, design, and maintenance of our stores, curation and display of products and services made available in our online stores, and infrastructure costs. Infrastructure costs include servers, networking equipment, and data center related depreciation and amortization, rent, utilities, and other expenses necessary to support AWS and other Amazon businesses. Collectively, these costs reflect the investments we make in order to offer a wide variety of products and services to our customers. Technology and content costs are generally expensed as incurred.

Marketing

Marketing costs primarily consist of advertising and payroll and related expenses for personnel engaged in marketing and selling activities, including sales commissions related to AWS. We pay commissions to third parties when their customer referrals result in sales. We also participate in cooperative advertising arrangements with certain of our vendors, and other third parties.

Advertising and other promotional costs to market our products and services are expensed as incurred and were $8.2 billion, $11.0 billion, and $10.9 billion in 2018, 2019, and 2020.

General and Administrative

General and administrative expenses primarily consist of costs for corporate functions, including payroll and related expenses; facilities and equipment expenses, such as depreciation and amortization expense and rent; and professional fees and litigation costs.

Stock-Based Compensation

Compensation cost for all equity-classified stock awards expected to vest is measured at fair value on the date of grant and recognized over the service period. The fair value of restricted stock units is determined based on the number of shares granted and the quoted price of our common stock. Such value is recognized as expense over the service period, net of estimated forfeitures, using the accelerated method. The estimated number of stock awards that will ultimately vest requires judgment, and to the extent actual results or updated estimates differ from our current estimates, such amounts will be recorded as a cumulative adjustment in the period estimates are revised. We consider many factors when estimating expected forfeitures, including historical forfeiture experience and employee level. Additionally, stock-based compensation includes stock appreciation rights that are expected to settle in cash. These liability-classified awards are remeasured to fair value at the end of each reporting period until settlement or expiration.

Other Operating Expense (Income), Net

Other operating expense (income), net, consists primarily of a benefit from accelerated vesting of warrants to acquire equity of a vendor in Q4 2020, offset by a lease impairment in Q2 2020 and the amortization of intangible assets.

Other Income (Expense), Net

Other income (expense), net, consists primarily of valuations and adjustments of equity securities of $145 million, $231 million, and $833 million in 2018, 2019, and 2020, equity warrant valuation gains (losses) of $(131) million, $11 million, and $1.5 billion in 2018, 2019, and 2020, and foreign currency gains (losses) of $(206) million, $(20) million, and $35 million in 2018, 2019, and 2020.

During the period from January 1, 2021 to February 2, 2021, we expect to record upward adjustments relating to equity investments in private companies of approximately $1.5 billion. In addition, for this same period, our equity and equity warrant investments in public companies, which are subject to volatility based on changes in market prices, have experienced gains of approximately $1.5 billion based on available trading prices.

Income Taxes

Income tax expense includes U.S. (federal and state) and foreign income taxes. Certain foreign subsidiary earnings and losses are subject to current U.S. taxation and the subsequent repatriation of those earnings is not subject to tax in the U.S. We intend to invest substantially all of our foreign subsidiary earnings, as well as our capital in our foreign subsidiaries, indefinitely outside of the U.S. in those jurisdictions in which we would incur significant, additional costs upon repatriation of such amounts.

Deferred income tax balances reflect the effects of temporary differences between the carrying amounts of assets and liabilities and their tax bases, as well as net operating loss and tax credit carryforwards, and are stated at enacted tax rates expected to be in effect when taxes are actually paid or recovered.

Deferred tax assets represent amounts available to reduce income taxes payable in future periods. Deferred tax assets are evaluated for future realization and reduced by a valuation allowance to the extent we believe they will not be realized. We consider many factors when assessing the likelihood of future realization of our deferred tax assets, including our recent cumulative loss experience and expectations of future earnings, capital gains and investment in such jurisdiction, the carry-forward periods available to us for tax reporting purposes, and other relevant factors. The effects of the COVID-19 pandemic on our business make estimates of future earnings in relevant jurisdictions more challenging.

We utilize a two-step approach to recognizing and measuring uncertain income tax positions (tax contingencies). The first step is to evaluate the tax position for recognition by determining if the weight of available evidence indicates it is more likely than not the position will be sustained on audit, including resolution of related appeals or litigation processes. The second step is to measure the tax benefit as the largest amount which is more than 50% likely of being realized upon ultimate settlement. We consider many factors when evaluating our tax positions and estimating our tax benefits, which may require periodic adjustments and which may not accurately forecast actual outcomes. We include interest and penalties related to our tax contingencies in income tax expense.

Fair Value of Financial Instruments

Fair value is defined as the price that would be received to sell an asset or paid to transfer a liability in an orderly transaction between market participants at the measurement date. To increase the comparability of fair value measures, the following hierarchy prioritizes the inputs to valuation methodologies used to measure fair value:

Level 1 — Valuations based on quoted prices for identical assets and liabilities in active markets.

Level 2 — Valuations based on observable inputs other than quoted prices included in Level 1, such as quoted prices for similar assets and liabilities in active markets, quoted prices for identical or similar assets and liabilities in markets that are not active, or other inputs that are observable or can be corroborated by observable market data.

Level 3 — Valuations based on unobservable inputs reflecting our own assumptions, consistent with reasonably available assumptions made by other market participants. These valuations require significant judgment.

We measure the fair value of money market funds and certain marketable equity securities based on quoted prices in active markets for identical assets or liabilities. Other marketable securities were valued either based on recent trades of securities in inactive markets or based on quoted market prices of similar instruments and other significant inputs derived from or corroborated by observable market data. We did not hold significant amounts of marketable securities categorized as Level 3 assets as of December 31, 2019 and 2020.

We hold equity warrants giving us the right to acquire stock of other companies. As of December 31, 2019 and 2020, these warrants had a fair value of $669 million and $3.0 billion, and are recorded within “Other assets” on our consolidated balance sheets with gains and losses recognized in “Other income (expense), net” on our consolidated statements of operations. These warrants are primarily classified as Level 2 assets.

Cash and Cash Equivalents

We classify all highly liquid instruments with an original maturity of three months or less as cash equivalents.

Inventories

Inventories, consisting of products available for sale, are primarily accounted for using the first-in, first-out method, and are valued at the lower of cost and net realizable value. This valuation requires us to make judgments, based on currently available information, about the likely method of disposition, such as through sales to individual customers, returns to product vendors, or liquidations, and expected recoverable values of each disposition category. The inventory valuation allowance, representing a write-down of inventory, was $1.6 billion and $2.3 billion as of December 31, 2019 and 2020.

We provide Fulfillment by Amazon services in connection with certain of our sellers’ programs. Third-party sellers maintain ownership of their inventory, regardless of whether fulfillment is provided by us or the third-party sellers, and therefore these products are not included in our inventories.

We also purchase electronic device components from a variety of suppliers and use several contract manufacturers to provide manufacturing services for our products. During the normal course of business, in order to manage manufacturing lead times and help ensure adequate supply, we enter into agreements with contract manufacturers and suppliers for certain electronic device components. A portion of our reported purchase commitments arising from these agreements consists of firm, non-cancellable commitments. These commitments are based on forecasted customer demand. If we reduce these commitments, we may incur additional costs. We also have firm, non-cancellable commitments for certain products offered in our Whole Foods Market stores.

Accounts Receivable, Net and Other

Included in “Accounts receivable, net and other” on our consolidated balance sheets are amounts primarily related to customers, vendors, and sellers. As of December 31, 2019 and 2020, customer receivables, net, were $12.6 billion and $14.8 billion, vendor receivables, net, were $4.2 billion and $4.8 billion, and seller receivables, net, were $863 million and $381 million. Seller receivables are amounts due from sellers related to our seller lending program, which provides funding to sellers primarily to procure inventory.

We estimate losses on receivables based on expected losses, including our historical experience of actual losses. Receivables are considered impaired and written-off when it is probable that all contractual payments due will not be collected in accordance with the terms of the agreement. The allowance for doubtful accounts was $495 million, $718 million, and $1.1 billion as of December 31, 2018, 2019, and 2020. Additions to the allowance were $878 million, $1.0 billion, and $1.4 billion, and deductions to the allowance were $731 million, $793 million, and $1.0 billion in 2018, 2019, and 2020.

Software Development Costs

We incur software development costs related to products to be sold, leased, or marketed to external users, internal-use software, and our websites. Software development costs capitalized were not significant for the years presented. All other costs, including those related to design or maintenance, are expensed as incurred.

Property and Equipment, Net

Property and equipment are stated at cost less accumulated depreciation and amortization. Incentives that we receive from property and equipment vendors are recorded as a reduction to our costs. Property includes buildings and land that we own, along with property we have acquired under build-to-suit lease arrangements when we have control over the building during the construction period and finance lease arrangements. Equipment includes assets such as servers and networking equipment, heavy equipment, and other fulfillment equipment. Depreciation and amortization is recorded on a straight-line basis over the estimated useful lives of the assets (generally the lesser of 40 years or the remaining life of the underlying building, three years prior to January 1, 2020 and four years subsequent to January 1, 2020 for our servers, five years for networking equipment, ten years for heavy equipment, and three to ten years for other fulfillment equipment). Depreciation and amortization expense is classified within the corresponding operating expense categories on our consolidated statements of operations.

Leases

We categorize leases with contractual terms longer than twelve months as either operating or finance. Finance leases are generally those leases that allow us to substantially utilize or pay for the entire asset over its estimated life. Assets acquired under finance leases are recorded in “Property and equipment, net.” All other leases are categorized as operating leases. Our leases generally have terms that range from one to ten years for equipment and one to twenty years for property.

Certain lease contracts include obligations to pay for other services, such as operations and maintenance. For leases of property, we account for these other services as a component of the lease. For substantially all other leases, the services are accounted for separately and we allocate payments to the lease and other services components based on estimated stand-alone prices.

Lease liabilities are recognized at the present value of the fixed lease payments, reduced by landlord incentives using a discount rate based on similarly secured borrowings available to us. Lease assets are recognized based on the initial present value of the fixed lease payments, reduced by landlord incentives, plus any direct costs from executing the leases or lease prepayments reclassified from “Other assets” upon lease commencement. Leasehold improvements are capitalized at cost and amortized over the lesser of their expected useful life or the lease term.

When we have the option to extend the lease term, terminate the lease before the contractual expiration date, or purchase the leased asset, and it is reasonably certain that we will exercise the option, we consider the option in determining the classification and measurement of the lease. Our leases may include variable payments based on measures that include changes in price indices, market interest rates, or the level of sales at a physical store, which are expensed as incurred.

Costs associated with operating lease assets are recognized on a straight-line basis within operating expenses over the term of the lease. Finance lease assets are amortized within operating expenses on a straight-line basis over the shorter of the estimated useful lives of the assets or, in the instance where title does not transfer at the end of the lease term, the lease term. The interest component of a finance lease is included in interest expense and recognized using the effective interest method over the lease term.

We establish assets and liabilities for the present value of estimated future costs to retire long-lived assets at the termination or expiration of a lease. Such assets are amortized over the lease period into operating expense, and the recorded liabilities are accreted to the future value of the estimated retirement costs.

Financing Obligations

We record assets and liabilities for estimated construction costs under build-to-suit lease arrangements when we have control over the building during the construction period. If we continue to control the building after the construction period, the arrangement is classified as a financing obligation instead of a lease. The building is depreciated over the shorter of its useful life or the term of the obligation.

If we do not control the building after the construction period ends, the assets and liabilities for construction costs are derecognized, and we classify the lease as either operating or finance.

Goodwill and Indefinite-Lived Intangible Assets

We evaluate goodwill and indefinite-lived intangible assets for impairment annually or more frequently when an event occurs or circumstances change that indicate the carrying value may not be recoverable. We may elect to utilize a qualitative assessment to evaluate whether it is more likely than not that the fair value of a reporting unit or indefinite-lived intangible asset is less than its carrying value and if so, we perform a quantitative test. We compare the carrying value of each reporting unit and indefinite-lived intangible asset to its estimated fair value and if the fair value is determined to be less than the carrying value, we recognize an impairment loss for the difference. We estimate the fair value of the reporting units using discounted cash flows. Forecasts of future cash flows are based on our best estimate of future net sales and operating expenses, based primarily on expected category expansion, pricing, market segment share, and general economic conditions.

We completed the required annual impairment test of goodwill for all reporting units and indefinite-lived intangible assets as of April 1, 2020, resulting in no impairments. The fair value of our reporting units substantially exceeded their carrying value. There were no events that caused us to update our annual impairment test. See “Note 5 — Acquisitions, Goodwill, and Acquired Intangible Assets.”

Other Assets

Included in “Other assets” on our consolidated balance sheets are amounts primarily related to video and music content, net of accumulated amortization; acquired intangible assets, net of accumulated amortization; certain equity investments; equity warrant assets; long-term deferred tax assets; and lease prepayments made prior to lease commencement.

Digital Video and Music Content

We obtain video content, inclusive of episodic television and movies, and music content for customers through licensing agreements that have a wide range of licensing provisions including both fixed and variable payment schedules. When the license fee for a specific video or music title is determinable or reasonably estimable and the content is available to us, we recognize an asset and a corresponding liability for the amounts owed. We reduce the liability as payments are made and we amortize the asset to “Cost of sales” on an accelerated basis, based on estimated usage or viewing patterns, or on a straight-line basis. If the licensing fee is not determinable or reasonably estimable, no asset or liability is recorded and licensing costs are expensed as incurred. We also develop original video content for which the production costs are capitalized and amortized to “Cost of sales” predominantly on an accelerated basis that follows the viewing patterns associated with the content. The weighted average remaining life of our capitalized video content is 2.5 years.

Our produced and licensed video content is primarily monetized together as a unit, referred to as a film group, in each major geography where we offer Amazon Prime memberships. These film groups are evaluated for impairment whenever an event occurs or circumstances change indicating the fair value is less than the carrying value. The total capitalized costs of video, which is primarily released content, and music as of December 31, 2019 and 2020 were $5.8 billion and $6.8 billion. Total video and music expense was $7.8 billion and $11.0 billion for the year ended December 31, 2019 and 2020. Total video and music expense includes licensing and production costs associated with content offered within Amazon Prime memberships, and costs associated with digital subscriptions and sold or rented content.

Investments

We generally invest our excess cash in AAA-rated money market funds and investment grade short- to intermediate-term fixed income securities. Such investments are included in “Cash and cash equivalents” or “Marketable securities” on the accompanying consolidated balance sheets.

Marketable debt securities are classified as available-for-sale and reported at fair value with unrealized gains and losses included in “Accumulated other comprehensive income (loss).” Each reporting period, we evaluate whether declines in fair value below carrying value are due to expected credit losses, as well as our ability and intent to hold the investment until a forecasted recovery occurs. Expected credit losses are recorded as an allowance through “Other income (expense), net” on our consolidated statements of operations.

Equity investments in private companies for which we do not have the ability to exercise significant influence are accounted for at cost, with adjustments for observable changes in prices or impairments, and are classified as “Other assets” on our consolidated balance sheets with adjustments recognized in “Other income (expense), net” on our consolidated statements of operations. Each reporting period, we perform a qualitative assessment to evaluate whether the investment is impaired. Our assessment includes a review of recent operating results and trends, recent sales/acquisitions of the investee securities, and other publicly available data. If the investment is impaired, we write it down to its estimated fair value. As of December 31, 2019 and 2020, these investments had a carrying value of $1.5 billion and $2.7 billion.

Equity investments are accounted for using the equity method of accounting if the investment gives us the ability to exercise significant influence, but not control, over an investee. Equity-method investments are included within "Other assets" on our consolidated balance sheets. Our share of the earnings or losses as reported by equity-method investees, amortization of basis differences, related gains or losses, and impairments, if any, are recognized in "Equity-method investment activity, net of tax" on our consolidated statements of operations. Each reporting period, we evaluate whether declines in fair value below carrying value are other-than-temporary and if so, we write down the investment to its estimated fair value.

Equity investments that have readily determinable fair values are included in "Marketable securities" on our consolidated balance sheets and measured at fair value with changes recognized in "Other income (expense), net" on our consolidated statements of operations.

Long-Lived Assets

Long-lived assets, other than goodwill and indefinite-lived intangible assets, are reviewed for impairment whenever events or changes in circumstances indicate that the carrying amount of the assets might not be recoverable. Conditions that would necessitate an impairment assessment include a significant decline in the observable market value of an asset, a significant change in the extent or manner in which an asset is used, or any other significant adverse change that would indicate that the carrying amount of an asset or group of assets may not be recoverable.

For long-lived assets used in operations, including lease assets, impairment losses are only recorded if the asset's carrying amount is not recoverable through its undiscounted, probability-weighted future cash flows. We measure the impairment loss based on the difference between the carrying amount and estimated fair value. Long-lived assets are considered held for sale when certain criteria are met, including when management has committed to a plan to sell the asset, the asset is available for sale in its immediate condition, and the sale is probable within one year of the reporting date. Assets held for sale are reported at the lower of cost or fair value less costs to sell. Assets held for sale were not significant as of December 31, 2019 and 2020.

Accrued Expenses and Other

Included in "Accrued expenses and other" on our consolidated balance sheets are liabilities primarily related to leases and asset retirement obligations, payroll and related expenses, tax-related liabilities, unredeemed gift cards, customer liabilities, current debt, acquired digital media content, and other operating expenses.

As of December 31, 2019 and 2020, our liabilities for payroll related expenses were $4.3 billion and $7.6 billion and our liabilities for unredeemed gift cards were $3.3 billion and $4.7 billion. We reduce the liability for a gift card when redeemed by a customer. The portion of gift cards that we do not expect to be redeemed is recognized based on customer usage patterns.

Unearned Revenue

Unearned revenue is recorded when payments are received or due in advance of performing our service obligations and is recognized over the service period. Unearned revenue primarily relates to prepayments of AWS services and Amazon Prime memberships. Our total unearned revenue as of December 31, 2019 was $10.2 billion, of which $7.9 billion was recognized as revenue during the year ended December 31, 2020 and our total unearned revenue as of December 31, 2020 was $11.6 billion. Included in "Other long-term liabilities" on our consolidated balance sheets was $2.0 billion and $1.9 billion of unearned revenue as of December 31, 2019 and 2020.

Additionally, we have performance obligations, primarily related to AWS, associated with commitments in customer contracts for future services that have not yet been recognized in our financial statements. For contracts with original terms that exceed one year, those commitments not yet recognized were $50.0 billion as of December 31, 2020. The weighted average remaining life of our long-term contracts is 3.4 years. However, the amount and timing of revenue recognition is largely driven by customer usage, which can extend beyond the original contractual term.

Other Long-Term Liabilities

Included in "Other long-term liabilities" on our consolidated balance sheets are liabilities primarily related to financing obligations, asset retirement obligations, deferred tax liabilities, unearned revenue, tax contingencies, and digital video and music content.

Foreign Currency

We have internationally-focused stores for which the net sales generated, as well as most of the related expenses directly incurred from those operations, are denominated in local functional currencies. The functional currency of our subsidiaries that either operate or support these stores is generally the same as the local currency. Assets and liabilities of these subsidiaries are translated into U.S. Dollars at period-end foreign exchange rates, and revenues and expenses are translated at average rates

prevailing throughout the period. Translation adjustments are included in "Accumulated other comprehensive income (loss)," a separate component of stockholders' equity, and in the "Foreign currency effect on cash, cash equivalents, and restricted cash," on our consolidated statements of cash flows. Transaction gains and losses including intercompany transactions denominated in a currency other than the functional currency of the entity involved are included in "Other income (expense), net" on our consolidated statements of operations. In connection with the settlement and remeasurement of intercompany balances, we recorded gains (losses) of $(186) million, $95 million, and $118 million in 2018, 2019, and 2020.

Note 2 — FINANCIAL INSTRUMENTS

Cash, Cash Equivalents, Restricted Cash, and Marketable Securities

As of December 31, 2019 and 2020, our cash, cash equivalents, restricted cash, and marketable securities primarily consisted of cash, AAA-rated money market funds, U.S. and foreign government and agency securities, and other investment grade securities. Cash equivalents and marketable securities are recorded at fair value. The following table summarizes, by major security type, our cash, cash equivalents, restricted cash, and marketable securities that are measured at fair value on a recurring basis and are categorized using the fair value hierarchy (in millions):

	December 31, 2019			
	Cost or Amortized Cost	Gross Unrealized Gains	Gross Unrealized Losses	Total Estimated Fair Value
Cash	$ 9,776	$ —	$ —	$ 9,776
Level 1 securities:				
Money market funds	18,850	—	—	18,850
Equity securities				202
Level 2 securities:				
Foreign government and agency securities	4,794	—	—	4,794
U.S. government and agency securities	7,070	11	(1)	7,080
Corporate debt securities	11,845	37	(1)	11,881
Asset-backed securities	2,355	6	(1)	2,360
Other fixed income securities	393	1	—	394
Equity securities				5
	$ 55,083	$ 55	$ (3)	$ 55,342
Less: Restricted cash, cash equivalents, and marketable securities (2)				(321)
Total cash, cash equivalents, and marketable securities				$ 55,021

	December 31, 2020			
	Cost or Amortized Cost	Gross Unrealized Gains	Gross Unrealized Losses	Total Estimated Fair Value
Cash	$ 10,063	$ —	$ —	$ 10,063
Level 1 securities:				
Money market funds	27,430	—	—	27,430
Equity securities (1)				617
Level 2 securities:				
Foreign government and agency securities	5,130	1	—	5,131
U.S. government and agency securities	7,410	30	(1)	7,439
Corporate debt securities	29,684	305	(1)	29,988
Asset-backed securities	3,206	32	(3)	3,235
Other fixed income securities	701	9	—	710
Equity securities (1)				40
	$ 83,624	$ 377	$ (5)	$ 84,653
Less: Restricted cash, cash equivalents, and marketable securities (2)				(257)
Total cash, cash equivalents, and marketable securities				$ 84,396

(1) The related unrealized gain (loss) recorded in "Other income (expense), net" was $448 million for the year ended December 31, 2020.
(2) We are required to pledge or otherwise restrict a portion of our cash, cash equivalents, and marketable securities as collateral for real estate leases, amounts due to third-party sellers in certain jurisdictions, debt, and standby and trade letters of credit. We classify cash, cash equivalents, and marketable securities with use restrictions of less than twelve months as "Accounts receivable, net and other" and of twelve months or longer as non-current "Other assets" on our consolidated balance sheets. See "Note 7 — Commitments and Contingencies."

The following table summarizes gross gains and gross losses realized on sales of available-for-sale fixed income marketable securities (in millions):

	Year Ended December 31,		
	2018	2019	2020
Realized gains	$ 2	$ 11	$ 92
Realized losses	9	7	56

The following table summarizes the remaining contractual maturities of our cash equivalents and marketable fixed income securities as of December 31, 2020 (in millions):

	Amortized Cost	Estimated Fair Value
Due within one year	$ 52,838	$ 52,850
Due after one year through five years	17,222	17,546
Due after five years through ten years	857	863
Due after ten years	2,644	2,674
Total	$ 73,561	$ 73,933

Actual maturities may differ from the contractual maturities because borrowers may have certain prepayment conditions.

Consolidated Statements of Cash Flows Reconciliation

The following table provides a reconciliation of the amount of cash, cash equivalents, and restricted cash reported within the consolidated balance sheets to the total of the same such amounts shown in the consolidated statements of cash flows (in millions):

	December 31, 2019	December 31, 2020
Cash and cash equivalents	$ 36,092	$ 42,122
Restricted cash included in accounts receivable, net and other	276	233
Restricted cash included in other assets	42	22
Total cash, cash equivalents, and restricted cash shown in the consolidated statements of cash flows	$ 36,410	$ 42,377

Note 3 — PROPERTY AND EQUIPMENT

Property and equipment, at cost, consisted of the following (in millions):

	December 31,	
	2019	2020
Gross property and equipment (1):		
Land and buildings	$ 39,223	$ 57,324
Equipment	71,310	97,224
Other assets	3,111	3,772
Construction in progress	6,036	15,228
Gross property and equipment	119,680	173,548
Total accumulated depreciation and amortization (1)	46,975	60,434
Total property and equipment, net	$ 72,705	$ 113,114

(1) Includes the original cost and accumulated depreciation of fully-depreciated assets.

Depreciation and amortization expense on property and equipment was $12.1 billion, $15.1 billion, and $16.2 billion which includes amortization of property and equipment acquired under finance leases of $7.3 billion, $10.1 billion, and $8.5 billion for 2018, 2019, and 2020.

Note 4 — LEASES

Gross assets acquired under finance leases, inclusive of those where title transfers at the end of the lease, are recorded in “Property and equipment, net” and were $57.4 billion and $68.1 billion as of December 31, 2019 and 2020. Accumulated amortization associated with finance leases was $30.0 billion and $36.5 billion as of December 31, 2019 and 2020.

Lease cost recognized in our consolidated statements of operations is summarized as follows (in millions):

	Year Ended December 31,	
	2019	2020
Operating lease cost	$ 3,669	$ 5,019
Finance lease cost:		
Amortization of lease assets	10,094	8,452
Interest on lease liabilities	695	617
Finance lease cost	10,789	9,069
Variable lease cost	966	1,238
Total lease cost	$ 15,424	$ 15,326

Other information about lease amounts recognized in our consolidated financial statements is as follows:

	December 31, 2019	December 31, 2020
Weighted-average remaining lease term – operating leases	11.5	11.3
Weighted-average remaining lease term – finance leases	5.5	6.2
Weighted-average discount rate – operating leases	3.1 %	2.5 %
Weighted-average discount rate – finance leases	2.7 %	2.1 %

Our lease liabilities were as follows (in millions):

	December 31, 2019		
	Operating Leases	Finance Leases	Total
Gross lease liabilities	$ 31,963	$ 28,875	$ 60,838
Less: imputed interest	(6,128)	(1,896)	(8,024)
Present value of lease liabilities	25,835	26,979	52,814
Less: current portion of lease liabilities	(3,139)	(9,884)	(13,023)
Total long-term lease liabilities	$ 22,696	$ 17,095	$ 39,791

	December 31, 2020		
	Operating Leases	Finance Leases	Total
Gross lease liabilities	$ 46,164	$ 30,437	$ 76,601
Less: imputed interest	(7,065)	(2,003)	(9,068)
Present value of lease liabilities	39,099	28,434	67,533
Less: current portion of lease liabilities	(4,586)	(10,374)	(14,960)
Total long-term lease liabilities	$ 34,513	$ 18,060	$ 52,573

Note 5 — ACQUISITIONS, GOODWILL, AND ACQUIRED INTANGIBLE ASSETS

2018 Acquisition Activity

On April 12, 2018, we acquired Ring Inc. for cash consideration of approximately $839 million, net of cash acquired, and on September 11, 2018, we acquired PillPack, Inc. for cash consideration of approximately $753 million, net of cash acquired, to expand our product and service offerings. During 2018, we also acquired certain other companies for an aggregate purchase price of $57 million.

2019 Acquisition Activity

During 2019, we acquired certain companies for an aggregate purchase price of $315 million, net of cash acquired.

2020 Acquisition Activity

During 2020, we acquired certain companies for an aggregate purchase price of $1.2 billion, net of cash acquired, of which $1.1 billion was capitalized to in-process research and development intangible assets ("IPR&D").

The primary reason for all acquisitions was to acquire technologies and know-how to enable Amazon to serve customers more effectively. Acquisition-related costs were expensed as incurred.

Pro forma results of operations have not been presented because the effects of 2020 acquisitions, individually and in the aggregate, were not material to our consolidated results of operations.

Goodwill

The goodwill of the acquired companies is primarily related to expected improvements in technology performance and functionality, as well as sales growth from future product and service offerings and new customers, together with certain intangible assets that do not qualify for separate recognition. The goodwill of the acquired companies is generally not deductible for tax purposes. The following summarizes our goodwill activity in 2019 and 2020 by segment (in millions):

	North America	International	AWS	Consolidated
Goodwill - January 1, 2019	$ 12,191	$ 1,270	$ 1,087	$ 14,548
New acquisitions	71	29	89	189
Other adjustments (1)	2	1	14	17
Goodwill - December 31, 2019	12,264	1,300	1,190	14,754
New acquisitions	204	6	2	212
Other adjustments (1)	59	(18)	10	51
Goodwill - December 31, 2020	$ 12,527	$ 1,288	$ 1,202	$ 15,017

(1) Primarily includes changes in foreign exchange rates.

Intangible Assets

Acquired identifiable intangible assets are valued primarily by using discounted cash flows. These assets are included within "Other assets" on our consolidated balance sheets and consist of the following (in millions):

	December 31,						
	2019			2020			
	Acquired Intangibles, Gross (1)	Accumulated Amortization (1)	Acquired Intangibles, Net	Acquired Intangibles, Gross (1)	Accumulated Amortization (1)	Acquired Intangibles, Net	Weighted Average Life Remaining
Finite-lived intangible assets (2):							
Marketing-related	$ 2,303	$ (340)	$ 1,963	$ 2,289	$ (445)	$ 1,844	20.0
Contract-based	1,680	(302)	1,378	1,917	(418)	1,499	11.0
Technology- and content-based	1,005	(477)	528	948	(555)	393	3.3
Customer-related	282	(130)	152	179	(77)	102	4.0
Total finite-lived intangible assets	$ 5,270	$ (1,249)	$ 4,021	$ 5,333	$ (1,495)	$ 3,838	14.4
IPR&D and other (3)	$ 28		$ 28	$ 1,143		$ 1,143	
Total acquired intangibles	$ 5,298	$ (1,249)	$ 4,049	$ 6,476	$ (1,495)	$ 4,981	

(1) Excludes the original cost and accumulated amortization of fully-amortized intangibles.
(2) Finite-lived intangible assets have estimated useful lives of between one and twenty-five years, and are being amortized to operating expenses on a straight-line basis.
(3) Intangible assets acquired in a business combination that are in-process and used in research and development activities are considered indefinite-lived until the completion or abandonment of the research and development efforts. Once the research and development efforts are completed, we determine the useful life and begin amortizing the assets.

Amortization expense for acquired finite-lived intangibles was $475 million, $565 million, and $509 million in 2018, 2019, and 2020. Expected future amortization expense of acquired finite-lived intangible assets as of December 31, 2020 is as follows (in millions):

Year Ended December 31,	
2021	$ 464
2022	430
2023	368
2024	303
2025	251
Thereafter	2,022
	$ 3,838

Note 6 — DEBT

As of December 31, 2020, we had $32.2 billion of unsecured senior notes outstanding (the "Notes"), including $10.0 billion issued in June 2020 for general corporate purposes. We also have other long-term debt and borrowings under our credit facility of $1.6 billion and $924 million as of December 31, 2019 and 2020. Our total long-term debt obligations are as follows (in millions):

	Maturities (1)	Stated Interest Rates	Effective Interest Rates	December 31, 2019	December 31, 2020
2012 Notes issuance of $3.0 billion	2022	2.50%	2.66%	1,250	1,250
2014 Notes issuance of $6.0 billion	2021 - 2044	3.30% - 4.95%	3.43% - 5.11%	5,000	5,000
2017 Notes issuance of $17.0 billion	2023 - 2057	2.40% - 5.20%	2.56% - 4.33%	17,000	16,000
2020 Notes issuance of $10.0 billion	2023 - 2060	0.40% - 2.70%	0.56% - 2.77%	—	10,000
Credit Facility				740	338
Other long-term debt				830	586
Total face value of long-term debt				24,820	33,174
Unamortized discount and issuance costs, net				(101)	(203)
Less current portion of long-term debt				(1,305)	(1,155)
Long-term debt				$ 23,414	$ 31,816

(1) The weighted average remaining lives of the 2012, 2014, 2017, and 2020 Notes were 1.9, 11.8, 16.2, and 18.7 years as of December 31, 2020. The combined weighted average remaining life of the Notes was 15.8 years as of December 31, 2020.

Interest on the Notes is payable semi-annually in arrears. We may redeem the Notes at any time in whole, or from time to time, in part at specified redemption prices. We are not subject to any financial covenants under the Notes. The estimated fair value of the Notes was approximately $26.2 billion and $37.7 billion as of December 31, 2019 and 2020, which is based on quoted prices for our debt as of those dates.

In October 2016, we entered into a $500 million secured revolving credit facility with a lender that is secured by certain seller receivables, which we subsequently increased to $740 million and may from time to time increase in the future subject to lender approval (the "Credit Facility"). The Credit Facility is available until October 2022, bears interest at the London interbank offered rate ("LIBOR") plus 1.40%, and has a commitment fee of 0.50% on the undrawn portion. There were $740 million and $338 million of borrowings outstanding under the Credit Facility as of December 31, 2019 and 2020, which had a weighted-average interest rate of 3.4% and 3.0%, respectively. As of December 31, 2019 and 2020, we have pledged $852 million and $398 million of our cash and seller receivables as collateral for debt related to our Credit Facility. The estimated fair value of the Credit Facility, which is based on Level 2 inputs, approximated its carrying value as of December 31, 2019 and 2020.

Other long-term debt, including the current portion, had a weighted-average interest rate of 4.1% and 2.9% as of December 31, 2019 and 2020. We used the net proceeds from the issuance of this debt primarily to fund certain business operations. The estimated fair value of other long-term debt, which is based on Level 2 inputs, approximated its carrying value as of December 31, 2019 and 2020.

As of December 31, 2020, future principal payments for our total long-term debt were as follows (in millions):

Year Ended December 31,		
2021	$	1,156
2022		1,629
2023		2,283
2024		3,355
2025		2,251
Thereafter		22,500
	$	33,174

In April 2018, we established a commercial paper program (the "Commercial Paper Program") under which we may from time to time issue unsecured commercial paper up to a total of $7.0 billion at any time, with individual maturities that may vary but will not exceed 397 days from the date of issue. In June 2020, we increased the size of the Commercial Paper Program to $10.0 billion. There were no borrowings outstanding under the Commercial Paper Program as of December 31, 2019. There were $725 million of borrowings outstanding under the Commercial Paper Program as of December 31, 2020, which are included in "Accrued expenses and other" on our consolidated balance sheets and have a weighted average effective interest rate, including issuance costs, of 0.11%. We use the net proceeds from the issuance of commercial paper for general corporate purposes.

In April 2018, in connection with our Commercial Paper Program, we amended and restated our unsecured revolving credit facility (the "Credit Agreement") with a syndicate of lenders to increase our borrowing capacity thereunder to $7.0 billion. In June 2020, we further amended and restated the Credit Agreement to extend the term to June 2023, and it may be extended for up to three additional one-year terms if approved by the lenders. The interest rate applicable to outstanding balances under the amended and restated Credit Agreement is LIBOR plus 0.50%, with a commitment fee of 0.04% on the undrawn portion of the credit facility. There were no borrowings outstanding under the Credit Agreement as of December 31, 2019 and 2020.

We also utilize other short-term credit facilities for working capital purposes. These amounts are included in "Accrued expenses and other" on our consolidated balance sheets. In addition, we had $5.1 billion of unused letters of credit as of December 31, 2020.

Note 7 — COMMITMENTS AND CONTINGENCIES

Commitments

We have entered into non-cancellable operating and finance leases and financing obligations for equipment and office, fulfillment, sortation, delivery, data center, physical store, and renewable energy facilities.

The following summarizes our principal contractual commitments, excluding open orders for purchases that support normal operations and are generally cancellable, as of December 31, 2020 (in millions):

	Year Ended December 31,						
	2021	2022	2023	2024	2025	Thereafter	Total
Long-term debt principal and interest	$ 2,187	$ 2,622	$ 3,219	$ 4,272	$ 3,058	$ 35,680	$ 51,038
Operating lease liabilities	5,600	5,184	4,743	4,356	3,951	22,330	46,164
Finance lease liabilities, including interest	10,778	7,246	3,456	1,389	1,035	6,533	30,437
Financing obligations, including interest	227	230	233	237	240	3,751	4,918
Leases not yet commenced	1,010	1,738	1,876	1,973	1,951	20,321	28,869
Unconditional purchase obligations (1)	3,869	3,760	3,367	3,141	2,213	136	16,486
Other commitments (2)(3)	3,671	2,386	945	783	661	8,351	16,797
Total commitments	$ 27,342	$ 23,166	$ 17,839	$ 16,151	$ 13,109	$ 97,102	$ 194,709

(1) Includes unconditional purchase obligations related to certain products offered in our Whole Foods Market stores and long-term agreements to acquire and license digital media content that are not reflected on the consolidated balance sheets. For those digital media content agreements with variable terms, we do not estimate the total obligation beyond any minimum quantities and/or pricing as of the reporting date. Purchase obligations associated with renewal provisions solely at the option of the content provider are included to the extent such commitments are fixed or a minimum amount is specified.

(2) Includes the estimated timing and amounts of payments for rent and tenant improvements associated with build-to-suit lease arrangements that are under construction, asset retirement obligations, and liabilities associated with digital media content agreements with initial terms greater than one year.

(3) Excludes approximately $2.8 billion of accrued tax contingencies for which we cannot make a reasonably reliable estimate of the amount and period of payment, if any.

Pledged Assets

As of December 31, 2019 and 2020, we have pledged or otherwise restricted $994 million and $875 million of our cash, cash equivalents, and marketable securities, and certain property and equipment as collateral for real estate leases, amounts due to third-party sellers in certain jurisdictions, debt, and standby and trade letters of credit. Additionally, we have pledged our cash and seller receivables for debt related to our Credit Facility. See “Note 6 — Debt.”

Suppliers

During 2020, no vendor accounted for 10% or more of our purchases. We generally do not have long-term contracts or arrangements with our vendors to guarantee the availability of merchandise, particular payment terms, or the extension of credit limits.

Other Contingencies

We are subject to claims related to various indirect taxes (such as sales, value added, consumption, service, and similar taxes), including in jurisdictions in which we already collect and remit such taxes. If the relevant taxing authorities were successfully to pursue these claims, we could be subject to significant additional tax liabilities. For example, in June 2017, the State of South Carolina issued an assessment for uncollected sales and use taxes for the period from January 2016 to March 2016, including interest and penalties. South Carolina is alleging that we should have collected sales and use taxes on transactions by our third-party sellers. In September 2019, the South Carolina Administrative Law Court ruled in favor of the Department of Revenue and we have appealed the decision to the state Court of Appeals. We believe the assessment is without merit and intend to defend ourselves vigorously in this matter. If other tax authorities were successfully to seek additional adjustments of a similar nature, we could be subject to significant additional tax liabilities.

Legal Proceedings

The Company is involved from time to time in claims, proceedings, and litigation, including the following:

In March 2015, Zitovault, LLC filed a complaint against Amazon.com, Inc., Amazon.com, LLC, Amazon Web Services, Inc., and Amazon Web Services, LLC for patent infringement in the United States District Court for the Eastern District of Texas. The complaint alleges that Elastic Compute Cloud, Virtual Private Cloud, Elastic Load Balancing, Auto-Scaling, and Elastic Beanstalk infringe U.S. Patent No. 6,484,257, entitled "System and Method for Maintaining N Number of Simultaneous Cryptographic Sessions Using a Distributed Computing Environment." The complaint seeks injunctive relief, an unspecified amount of damages, enhanced damages, attorneys' fees, costs, and interest. In January 2016, the case was transferred to the United States District Court for the Western District of Washington. In June 2016, the case was stayed pending resolution of a review petition we filed with the United States Patent and Trademark Office. In January 2019, the stay of the case was lifted following resolution of the review petition. We dispute the allegations of wrongdoing and intend to defend ourselves vigorously in this matter.

In November 2015, Eolas Technologies, Inc. filed a complaint against Amazon.com, Inc. in the United States District Court for the Eastern District of Texas. The complaint alleges, among other things, that the use of "interactive features" on www.amazon.com, including "search suggestions and search results," infringes U.S. Patent No. 9,195,507, entitled "Distributed Hypermedia Method and System for Automatically Invoking External Application Providing Interaction and Display of Embedded Objects Within A Hypermedia Document." The complaint sought a judgment of infringement together with costs and attorneys' fees. In February 2016, Eolas filed an amended complaint seeking, among other things, an unspecified amount of damages. In February 2017, Eolas alleged in its damages report that in the event of a finding of liability Amazon could be subject to $130-$250 million in damages. In April 2017, the case was transferred to the United States District Court for the Northern District of California. We dispute the allegations of wrongdoing and intend to defend ourselves vigorously in this matter.

In May 2018, Rensselaer Polytechnic Institute and CF Dynamic Advances LLC filed a complaint against Amazon.com, Inc. in the United States District Court for the Northern District of New York. The complaint alleges, among other things, that "Alexa Voice Software and Alexa enabled devices" infringe U.S. Patent No. 7,177,798, entitled "Natural Language Interface Using Constrained Intermediate Dictionary of Results." The complaint seeks an injunction, an unspecified amount of damages, enhanced damages, an ongoing royalty, pre- and post-judgment interest, attorneys' fees, and costs. We dispute the allegations of wrongdoing and intend to defend ourselves vigorously in this matter.

In December 2018, Kove IO, Inc. filed a complaint against Amazon Web Services, Inc. in the United States District Court for the Northern District of Illinois. The complaint alleges, among other things, that Amazon S3 and DynamoDB infringe U.S. Patent Nos. 7,814,170 and 7,103,640, both entitled "Network Distributed Tracking Wire Transfer Protocol," and 7,233,978, entitled "Method And Apparatus For Managing Location Information In A Network Separate From The Data To Which The Location Information Pertains." The complaint seeks an unspecified amount of damages, enhanced damages, attorneys' fees, costs, interest, and injunctive relief. We dispute the allegations of wrongdoing and intend to defend ourselves vigorously in this matter.

Beginning in March 2020, a number of class-action complaints were filed alleging, among other things, price fixing arrangements between Amazon.com, Inc. and third-party sellers in Amazon's stores, monopolization and attempted monopolization of an alleged market in online retail or other submarkets, and consumer protection and unjust enrichment claims. In March 2020, Frame-Wilson v. Amazon.com, Inc. was filed in the United States District Court for the Western District of Washington. Beginning in April 2020, class action complaints were filed in the Superior Court of Quebec – Division of Montreal, the Ontario Superior Court of Justice, and the Federal Court of Canada against Amazon.com, Inc. and related entities. The complaints allege several distinct purported classes, including consumers who purchased a product through Amazon's stores and consumers who purchased a product offered by Amazon through another e-commerce retailer. The complaints seek billions of dollars of alleged actual damages, treble damages, punitive damages, and injunctive relief. We dispute the allegations of wrongdoing and intend to defend ourselves vigorously in these matters.

In November 2020, the European Commission issued a Statement of Objections alleging that Amazon uses data relating to our marketplace sellers in a manner that infringes EU competition rules. The Statement of Objections seeks to impose unspecified fines and remedial actions. We disagree with the preliminary assertions of the European Commission and intend to defend ourselves vigorously in this matter.

In addition, we are regularly subject to claims, litigation, and other proceedings, including potential regulatory proceedings, involving patent and other intellectual property matters, taxes, labor and employment, competition and antitrust, privacy and data protection, consumer protection, commercial disputes, goods and services offered by us and by third parties, and other matters.

The outcomes of our legal proceedings and other contingencies are inherently unpredictable, subject to significant uncertainties, and could be material to our operating results and cash flows for a particular period. We evaluate, on a regular

basis, developments in our legal proceedings and other contingencies that could affect the amount of liability, including amounts in excess of any previous accruals and reasonably possible losses disclosed, and make adjustments and changes to our accruals and disclosures as appropriate. For the matters we disclose that do not include an estimate of the amount of loss or range of losses, such an estimate is not possible or is immaterial, and we may be unable to estimate the possible loss or range of losses that could potentially result from the application of non-monetary remedies. Until the final resolution of such matters, if any of our estimates and assumptions change or prove to have been incorrect, we may experience losses in excess of the amounts recorded, which could have a material effect on our business, consolidated financial position, results of operations, or cash flows.

See also "Note 9 — Income Taxes."

Note 8 — STOCKHOLDERS' EQUITY

Preferred Stock

We have authorized 500 million shares of $0.01 par value preferred stock. No preferred stock was outstanding for any year presented.

Common Stock

Common shares outstanding plus shares underlying outstanding stock awards totaled 507 million, 512 million, and 518 million, as of December 31, 2018, 2019, and 2020. These totals include all vested and unvested stock awards outstanding, including those awards we estimate will be forfeited.

Stock Repurchase Activity

In February 2016, the Board of Directors authorized a program to repurchase up to $5.0 billion of our common stock, with no fixed expiration. There were no repurchases of common stock in 2018, 2019, or 2020.

Stock Award Plans

Employees vest in restricted stock unit awards over the corresponding service term, generally between two and five years.

Stock Award Activity

Stock-based compensation expense is as follows (in millions):

	Year Ended December 31,		
	2018	2019	2020
Cost of sales	$ 73	$ 149	$ 283
Fulfillment	1,121	1,182	1,357
Technology and content	2,888	3,725	5,061
Marketing	769	1,135	1,710
General and administrative	567	673	797
Total stock-based compensation expense (1)	$ 5,418	$ 6,864	$ 9,208

(1) The related tax benefits were $1.1 billion, $1.4 billion, and $1.9 billion for 2018, 2019, and 2020.

The following table summarizes our restricted stock unit activity (in millions):

	Number of Units	Weighted Average Grant-Date Fair Value
Outstanding as of January 1, 2018	20.1	$ 725
Units granted	5.0	1,522
Units vested	(7.1)	578
Units forfeited	(2.1)	862
Outstanding as of December 31, 2018	15.9	1,024
Units granted	6.7	1,808
Units vested	(6.6)	827
Units forfeited	(1.7)	1,223
Outstanding as of December 31, 2019	14.3	1,458
Units granted	8.0	2,373
Units vested	(5.8)	1,239
Units forfeited	(1.3)	1,642
Outstanding as of December 31, 2020	15.2	2,004

Scheduled vesting for outstanding restricted stock units as of December 31, 2020, is as follows (in millions):

	Year Ended						
	2021	2022	2023	2024	2025	Thereafter	Total
Scheduled vesting — restricted stock units	5.7	5.4	2.7	1.2	0.1	0.1	15.2

As of December 31, 2020, there was $13.3 billion of net unrecognized compensation cost related to unvested stock-based compensation arrangements. This compensation is recognized on an accelerated basis with approximately half of the compensation expected to be expensed in the next twelve months, and has a remaining weighted-average recognition period of 1.2 years. The estimated forfeiture rate as of December 31, 2018, 2019, and 2020 was 27%. Changes in our estimates and assumptions relating to forfeitures may cause us to realize material changes in stock-based compensation expense in the future.

During 2018, 2019, and 2020, the fair value of restricted stock units that vested was $11.4 billion, $11.7 billion, and $15.5 billion.

Common Stock Available for Future Issuance

As of December 31, 2020, common stock available for future issuance to employees is 102 million shares.

Note 9 — INCOME TAXES

In 2018, 2019, and 2020, we recorded net tax provisions of $1.2 billion, $2.4 billion, and $2.9 billion. Tax benefits relating to excess stock-based compensation deductions and accelerated depreciation deductions are reducing our U.S. taxable income. Cash taxes paid, net of refunds, were $1.2 billion, $881 million, and $1.7 billion for 2018, 2019, and 2020.

U.S. companies are eligible for a deduction that lowers the effective tax rate on certain foreign income. This regime is referred to as the Foreign-Derived Intangible Income deduction (“FDII”). In addition, certain foreign subsidiary earnings and losses are subject to current U.S. taxation and the subsequent repatriation of those earnings is not subject to tax in the U.S. The U.S. tax rules also provide for enhanced accelerated depreciation deductions by allowing the election of full expensing of qualified property, primarily equipment, through 2022. Our federal tax provision included the election of full expensing of qualified property for 2018 and 2019 and a partial election for 2020.

The components of the provision for income taxes, net are as follows (in millions):

	Year Ended December 31,		
	2018	2019	2020
U.S. Federal:			
Current	$ (129)	$ 162	$ 1,835
Deferred	565	914	(151)
Total	436	1,076	1,684
U.S. State:			
Current	322	276	626
Deferred	5	8	(190)
Total	327	284	436
International:			
Current	563	1,140	956
Deferred	(129)	(126)	(213)
Total	434	1,014	743
Provision for income taxes, net	$ 1,197	$ 2,374	$ 2,863

U.S. and international components of income before income taxes are as follows (in millions):

	Year Ended December 31,		
	2018	2019	2020
U.S.	$ 11,157	$ 13,285	$ 20,219
International	104	691	3,959
Income before income taxes	$ 11,261	$ 13,976	$ 24,178

The items accounting for differences between income taxes computed at the federal statutory rate and the provision recorded for income taxes are as follows (in millions):

	Year Ended December 31,		
	2018	2019	2020
Income taxes computed at the federal statutory rate	$ 2,365	$ 2,935	$ 5,078
Effect of:			
Tax impact of foreign earnings and losses	162	453	(538)
State taxes, net of federal benefits	263	221	343
Tax credits	(419)	(466)	(639)
Stock-based compensation (1)	(1,086)	(850)	(1,107)
Foreign income deduction (FDII)	(43)	(72)	(372)
2017 Impact of U.S. Tax Act	(157)	—	—
Other, net	112	153	98
Total	$ 1,197	$ 2,374	$ 2,863

(1) Includes non-deductible stock-based compensation and excess tax benefits from stock-based compensation. Our tax provision includes $1.6 billion, $1.4 billion, and $1.8 billion of excess tax benefits from stock-based compensation for 2018, 2019, and 2020.

Our provision for income taxes in 2019 was higher than in 2018 primarily due to an increase in U.S. pre-tax income, a decline in excess tax benefits from stock-based compensation, and the one-time provisional tax benefit of the U.S. Tax Act recognized in 2018.

Our provision for income taxes in 2020 was higher than in 2019 primarily due to an increase in pretax income. This was partially offset by the impact of developments in our ongoing global tax controversies on taxes related to our foreign earnings and losses, an increase in excess tax benefits from stock-based compensation, and an increase in our foreign income deduction under FDII. In addition, our Luxembourg operations generated earnings in 2020 and utilized deferred tax assets previously subject to valuation allowances.

We intend to invest substantially all of our foreign subsidiary earnings, as well as our capital in our foreign subsidiaries, indefinitely outside of the U.S. in those jurisdictions in which we would incur significant, additional costs upon repatriation of such amounts.

Deferred income tax assets and liabilities are as follows (in millions):

	December 31,	
	2019	2020
Deferred tax assets (1):		
Loss carryforwards U.S. - Federal/States	188	245
Loss carryforwards - Foreign	3,232	3,876
Accrued liabilities, reserves, and other expenses	1,373	2,457
Stock-based compensation	1,585	2,033
Depreciation and amortization	2,385	1,886
Operating lease liabilities	6,648	10,183
Other items	728	559
Tax credits	772	207
Total gross deferred tax assets	16,911	21,446
Less valuation allowances (2)	(5,754)	(5,803)
Deferred tax assets, net of valuation allowances	11,157	15,643
Deferred tax liabilities:		
Depreciation and amortization	(5,507)	(5,508)
Operating lease assets	(6,331)	(9,539)
Other items	(640)	(1,462)
Net deferred tax assets (liabilities), net of valuation allowances	$ (1,321)	$ (866)

(1) Deferred tax assets are presented after tax effects and net of tax contingencies.
(2) Relates primarily to deferred tax assets that would only be realizable upon the generation of net income in certain foreign taxing jurisdictions.

Our valuation allowances primarily relate to foreign deferred tax assets, including substantially all of our foreign net operating loss carryforwards as of December 31, 2020. Our foreign net operating loss carryforwards for income tax purposes as of December 31, 2020 were approximately $13.4 billion before tax effects and certain of these amounts are subject to annual limitations under applicable tax law. If not utilized, a portion of these losses will begin to expire in 2021. All remaining federal tax credits, which were primarily related to the U.S. federal research and development credit, reduced our federal tax liability in 2020.

We regularly assess whether it is more likely than not that we will realize our deferred tax assets in each taxing jurisdiction in which we operate. In performing this assessment with respect to each jurisdiction, we review all available evidence, including recent cumulative loss experience and expectations of future earnings, capital gains, and investment in such jurisdiction, the carry-forward periods available to us for tax reporting purposes, and other relevant factors. The effects of the COVID-19 pandemic on our business make estimates of future earnings more challenging. Since Q2 2017, we have recorded a valuation allowance against our net deferred tax assets in Luxembourg. There is still significant uncertainty whether our earnings in Luxembourg are sustainable in the future and we will maintain the valuation allowance until sufficient positive evidence exists to support a release of the valuation allowance.

Tax Contingencies

We are subject to income taxes in the U.S. (federal and state) and numerous foreign jurisdictions. Significant judgment is required in evaluating our tax positions and determining our provision for income taxes. During the ordinary course of business, there are many transactions and calculations for which the ultimate tax determination is uncertain. We establish reserves for tax-related uncertainties based on estimates of whether, and the extent to which, additional taxes will be due. These reserves are established when we believe that certain positions might be challenged despite our belief that our tax return positions are fully supportable. We adjust these reserves in light of changing facts and circumstances, such as the outcome of tax audits. The provision for income taxes includes the impact of reserve provisions and changes to reserves that are considered appropriate.

The reconciliation of our tax contingencies is as follows (in millions):

	December 31,		
	2018	2019	2020
Gross tax contingencies – January 1	$ 2,309	$ 3,414	$ 3,923
Gross increases to tax positions in prior periods	164	216	88
Gross decreases to tax positions in prior periods	(90)	(181)	(465)
Gross increases to current period tax positions	1,088	707	507
Settlements with tax authorities	(36)	(207)	(1,207)
Lapse of statute of limitations	(21)	(26)	(26)
Gross tax contingencies – December 31 (1)	$ 3,414	$ 3,923	$ 2,820

(1) As of December 31, 2020, we had approximately $2.8 billion of accrued tax contingencies of which $1.5 billion, if fully recognized, would decrease our effective tax rate. The decrease in our tax contingencies in 2020 was primarily a result of developments in our global tax controversies.

As of December 31, 2019 and 2020, we had accrued interest and penalties, net of federal income tax benefit, related to tax contingencies of $131 million and $83 million. Interest and penalties, net of federal income tax benefit, recognized for the years ended December 31, 2018, 2019, and 2020 was $20 million, $4 million, and $(48) million.

We are under examination, or may be subject to examination, by the Internal Revenue Service ("IRS") for the calendar year 2013 and thereafter. These examinations may lead to ordinary course adjustments or proposed adjustments to our taxes or our net operating losses with respect to years under examination as well as subsequent periods. During Q3 2020, we resolved the audits of tax years 2007 through 2012 with the IRS for amounts that were materially consistent with our accrual.

In October 2014, the European Commission opened a formal investigation to examine whether decisions by the tax authorities in Luxembourg with regard to the corporate income tax paid by certain of our subsidiaries comply with European Union rules on state aid. On October 4, 2017, the European Commission announced its decision that determinations by the tax authorities in Luxembourg did not comply with European Union rules on state aid. Based on that decision the European Commission announced an estimated recovery amount of approximately €250 million, plus interest, for the period May 2006 through June 2014, and ordered Luxembourg tax authorities to calculate the actual amount of additional taxes subject to recovery. Luxembourg computed an initial recovery amount, consistent with the European Commission's decision, that we deposited into escrow in March 2018, subject to adjustment pending conclusion of all appeals. In December 2017, Luxembourg appealed the European Commission's decision. In May 2018, we appealed. We believe the European Commission's decision to be without merit and will continue to defend ourselves vigorously in this matter. We are also subject to taxation in various states and other foreign jurisdictions including China, Germany, India, Japan, Luxembourg, and the United Kingdom. We are under, or may be subject to, audit or examination and additional assessments by the relevant authorities in respect of these particular jurisdictions primarily for 2009 and thereafter.

Changes in tax laws, regulations, administrative practices, principles, and interpretations may impact our tax contingencies. The timing of the resolution of income tax examinations is highly uncertain, and the amounts ultimately paid, if any, upon resolution of the issues raised by the taxing authorities may differ from the amounts accrued. It is reasonably possible that within the next twelve months we will receive additional assessments by various tax authorities or possibly reach resolution of income tax examinations in one or more jurisdictions. These assessments or settlements could result in changes to our contingencies related to positions on prior years' tax filings. The actual amount of any change could vary significantly depending on the ultimate timing and nature of any settlements. We cannot currently provide an estimate of the range of possible outcomes.

Note 10 — SEGMENT INFORMATION

We have organized our operations into three segments: North America, International, and AWS. We allocate to segment results the operating expenses "Fulfillment," "Technology and content," "Marketing," and "General and administrative" based on usage, which is generally reflected in the segment in which the costs are incurred. The majority of technology infrastructure costs are allocated to the AWS segment based on usage. The majority of the remaining non-infrastructure technology costs are incurred in the U.S. and are allocated to our North America segment. There are no internal revenue transactions between our reportable segments. These segments reflect the way our chief operating decision maker evaluates the Company's business performance and manages its operations.

North America

The North America segment primarily consists of amounts earned from retail sales of consumer products (including from sellers) and subscriptions through North America-focused online and physical stores. This segment includes export sales from these online stores.

International

The International segment primarily consists of amounts earned from retail sales of consumer products (including from sellers) and subscriptions through internationally-focused online stores. This segment includes export sales from these internationally-focused online stores (including export sales from these online stores to customers in the U.S., Mexico, and Canada), but excludes export sales from our North America-focused online stores.

AWS

The AWS segment consists of amounts earned from global sales of compute, storage, database, and other services for start-ups, enterprises, government agencies, and academic institutions.

Information on reportable segments and reconciliation to consolidated net income (loss) is as follows (in millions):

	Year Ended December 31,		
	2018	2019	2020
North America			
Net sales	$ 141,366	$ 170,773	$ 236,282
Operating expenses	134,099	163,740	227,631
Operating income	$ 7,267	$ 7,033	$ 8,651
International			
Net sales	$ 65,866	$ 74,723	$ 104,412
Operating expenses	68,008	76,416	103,695
Operating income (loss)	$ (2,142)	$ (1,693)	$ 717
AWS			
Net sales	$ 25,655	$ 35,026	$ 45,370
Operating expenses	18,359	25,825	31,839
Operating income	$ 7,296	$ 9,201	$ 13,531
Consolidated			
Net sales	$ 232,887	$ 280,522	$ 386,064
Operating expenses	220,466	265,981	363,165
Operating income	12,421	14,541	22,899
Total non-operating income (expense)	(1,160)	(565)	1,279
Provision for income taxes	(1,197)	(2,374)	(2,863)
Equity-method investment activity, net of tax	9	(14)	16
Net income	$ 10,073	$ 11,588	$ 21,331

Net sales by groups of similar products and services, which also have similar economic characteristics, is as follows (in millions):

	Year Ended December 31,		
	2018	2019	2020
Net Sales:			
Online stores (1)	$ 122,987	$ 141,247	$ 197,346
Physical stores (2)	17,224	17,192	16,227
Third-party seller services (3)	42,745	53,762	80,461
Subscription services (4)	14,168	19,210	25,207
AWS	25,655	35,026	45,370
Other (5)	10,108	14,085	21,453
Consolidated	$ 232,887	$ 280,522	$ 386,064

(1) Includes product sales and digital media content where we record revenue gross. We leverage our retail infrastructure to offer a wide selection of consumable and durable goods that includes media products available in both a physical and digital format, such as books, videos, games, music, and software. These product sales include digital products sold on a transactional basis. Digital product subscriptions that provide unlimited viewing or usage rights are included in "Subscription services."
(2) Includes product sales where our customers physically select items in a store. Sales to customers who order goods online for delivery or pickup at our physical stores are included in "Online stores."
(3) Includes commissions and any related fulfillment and shipping fees, and other third-party seller services.
(4) Includes annual and monthly fees associated with Amazon Prime memberships, as well as digital video, audiobook, digital music, e-book, and other non-AWS subscription services.
(5) Primarily includes sales of advertising services, as well as sales related to our other service offerings.

Net sales generated from our internationally-focused online stores are denominated in local functional currencies. Revenues are translated at average rates prevailing throughout the period. Net sales attributed to countries that represent a significant portion of consolidated net sales are as follows (in millions):

	Year Ended December 31,		
	2018	2019	2020
United States	$ 160,146	$ 193,636	$ 263,520
Germany	19,881	22,232	29,565
United Kingdom	14,524	17,527	26,483
Japan	13,829	16,002	20,461
Rest of world	24,507	31,125	46,035
Consolidated	$ 232,887	$ 280,522	$ 386,064

Total segment assets exclude corporate assets, such as cash and cash equivalents, marketable securities, other long-term investments, corporate facilities, goodwill and other acquired intangible assets, and tax assets. Technology infrastructure assets are allocated among the segments based on usage, with the majority allocated to the AWS segment. Total segment assets reconciled to consolidated amounts are as follows (in millions):

	December 31,		
	2018	2019	2020
North America (1)	$ 47,251	$ 72,277	$ 108,405
International (1)	19,923	30,709	42,212
AWS (2)	26,340	36,500	47,574
Corporate	69,134	85,762	123,004
Consolidated	$ 162,648	$ 225,248	$ 321,195

(1) North America and International segment assets primarily consist of property and equipment, operating leases, inventory, and accounts receivable.
(2) AWS segment assets primarily consist of property and equipment and accounts receivable.

Property and equipment, net by segment is as follows (in millions):

	December 31,		
	2018	2019	2020
North America	$ 27,052	$ 31,719	$ 54,912
International	8,552	9,566	15,375
AWS	18,851	23,481	32,151
Corporate	7,342	7,939	10,676
Consolidated	$ 61,797	$ 72,705	$ 113,114

Total net additions to property and equipment by segment are as follows (in millions):

	Year Ended December 31,		
	2018	2019	2020
North America (1)	$ 10,749	$ 11,752	$ 29,889
International (1)	2,476	3,298	8,072
AWS (2)	9,783	13,058	16,530
Corporate	2,060	1,910	3,485
Consolidated	$ 25,068	$ 30,018	$ 57,976

(1) Includes property and equipment added under finance leases of $2.0 billion, $3.8 billion, and $5.6 billion in 2018, 2019, and 2020, and under financing obligations of $3.0 billion, $1.3 billion, and $2.7 billion in 2018, 2019, and 2020.
(2) Includes property and equipment added under finance leases of $8.4 billion, $10.6 billion, and $7.7 billion in 2018, 2019, and 2020, and under financing obligations of $245 million, $0 million, and $130 million in 2018, 2019, and 2020.

U.S. property and equipment, net and operating leases were $45.1 billion, $69.8 billion, and $109.5 billion, in 2018, 2019, and 2020, and non-U.S. property and equipment, net and operating leases were $16.7 billion, $28.0 billion, and $41.2 billion in 2018, 2019, and 2020. Except for the U.S., property and equipment, net and operating leases in any single country were less than 10% of consolidated property and equipment, net and operating leases.

Depreciation and amortization expense on property and equipment, including corporate property and equipment, are allocated to all segments based on usage. Total depreciation and amortization expense, by segment, is as follows (in millions):

	Year Ended December 31,		
	2018	2019	2020
North America	$ 4,415	$ 5,106	$ 6,421
International	1,628	1,886	2,215
AWS	6,095	8,158	7,603
Consolidated	$ 12,138	$ 15,150	$ 16,239

Note 11 — QUARTERLY RESULTS (UNAUDITED)

The following tables contain selected unaudited statement of operations information for each quarter of 2019 and 2020. The following information reflects all normal recurring adjustments necessary for a fair presentation of the information for the periods presented. The operating results for any quarter are not necessarily indicative of results for any future period. Our business is affected by seasonality, which historically has resulted in higher sales volume during our fourth quarter. Unaudited quarterly results are as follows (in millions, except per share data):

	Year Ended December 31, 2019 (1)			
	First Quarter	Second Quarter	Third Quarter	Fourth Quarter
Net sales	$ 59,700	$ 63,404	$ 69,981	$ 87,437
Operating income	4,420	3,084	3,157	3,879
Income before income taxes	4,401	2,889	2,632	4,053
Provision for income taxes	(836)	(257)	(494)	(786)
Net income	3,561	2,625	2,134	3,268
Basic earnings per share	7.24	5.32	4.31	6.58
Diluted earnings per share	7.09	5.22	4.23	6.47
Shares used in computation of earnings per share:				
Basic	491	493	495	496
Diluted	502	503	504	505

	Year Ended December 31, 2020 (1)			
	First Quarter	Second Quarter	Third Quarter	Fourth Quarter
Net sales	$ 75,452	$ 88,912	$ 96,145	$ 125,555
Operating income	3,989	5,843	6,194	6,873
Income before income taxes	3,383	6,221	6,809	7,765
Provision for income taxes	(744)	(984)	(569)	(566)
Net income	2,535	5,243	6,331	7,222
Basic earnings per share	5.09	10.50	12.63	14.38
Diluted earnings per share	5.01	10.30	12.37	14.09
Shares used in computation of earnings per share:				
Basic	498	500	501	502
Diluted	506	509	512	513

(1) The sum of quarterly amounts, including per share amounts, may not equal amounts reported for year-to-date periods. This is due to the effects of rounding and changes in the number of weighted-average shares outstanding for each period.

Item 9. ***Changes in and Disagreements with Accountants On Accounting and Financial Disclosure***

None.

Item 9A. ***Controls and Procedures***

Evaluation of Disclosure Controls and Procedures

We carried out an evaluation required by the Securities Exchange Act of 1934 (the "1934 Act"), under the supervision and with the participation of our principal executive officer and principal financial officer, of the effectiveness of the design and operation of our disclosure controls and procedures, as defined in Rule 13a-15(e) of the 1934 Act, as of December 31, 2020. Based on this evaluation, our principal executive officer and principal financial officer concluded that, as of December 31, 2020, our disclosure controls and procedures were effective to provide reasonable assurance that information required to be disclosed by us in the reports that we file or submit under the 1934 Act is recorded, processed, summarized, and reported within the time periods specified in the SEC's rules and forms and to provide reasonable assurance that such information is accumulated and communicated to our management, including our principal executive officer and principal financial officer, as appropriate to allow timely decisions regarding required disclosure.

Management's Report on Internal Control over Financial Reporting

Management is responsible for establishing and maintaining adequate internal control over financial reporting, as defined in Rule 13a-15(f) of the 1934 Act. Management has assessed the effectiveness of our internal control over financial reporting as of December 31, 2020 based on criteria established in Internal Control — Integrated Framework (2013) issued by the Committee of Sponsoring Organizations of the Treadway Commission. As a result of this assessment, management concluded that, as of December 31, 2020, our internal control over financial reporting was effective in providing reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles. Ernst & Young has independently assessed the effectiveness of our internal control over financial reporting and its report is included below.

Changes in Internal Control Over Financial Reporting

There were no changes in our internal control over financial reporting during the quarter ended December 31, 2020 that materially affected, or are reasonably likely to materially affect, our internal control over financial reporting.

Limitations on Controls

Our disclosure controls and procedures and internal control over financial reporting are designed to provide reasonable assurance of achieving their objectives as specified above. Management does not expect, however, that our disclosure controls and procedures or our internal control over financial reporting will prevent or detect all error and fraud. Any control system, no matter how well designed and operated, is based upon certain assumptions and can provide only reasonable, not absolute, assurance that its objectives will be met. Further, no evaluation of controls can provide absolute assurance that misstatements due to error or fraud will not occur or that all control issues and instances of fraud, if any, within the Company have been detected.

Report of Independent Registered Public Accounting Firm

The Board of Directors and Shareholders
Amazon.com, Inc.

Opinion on Internal Control Over Financial Reporting

We have audited Amazon.com, Inc.'s internal control over financial reporting as of December 31, 2020, based on criteria established in Internal Control — Integrated Framework issued by the Committee of Sponsoring Organizations of the Treadway Commission (2013 framework) (the COSO criteria). In our opinion, Amazon.com, Inc. (the Company) maintained, in all material respects, effective internal control over financial reporting as of December 31, 2020, based on the COSO criteria.

We also have audited, in accordance with the standards of the Public Company Accounting Oversight Board (United States) (PCAOB), the consolidated balance sheets of the Company as of December 31, 2020 and 2019, and the related consolidated statements of operations, comprehensive income, stockholders' equity, and cash flows for each of the three years in the period ended December 31, 2020 and the related notes and our report dated February 2, 2021 expressed an unqualified opinion thereon.

Basis for Opinion

The Company's management is responsible for maintaining effective internal control over financial reporting, and for its assessment of the effectiveness of internal control over financial reporting included in the accompanying Management's Report on Internal Control over Financial Reporting. Our responsibility is to express an opinion on the Company's internal control over financial reporting based on our audit. We are a public accounting firm registered with the PCAOB and are required to be independent with respect to the Company in accordance with the U.S. federal securities laws and the applicable rules and regulations of the Securities and Exchange Commission and the PCAOB.

We conducted our audit in accordance with the standards of the PCAOB. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether effective internal control over financial reporting was maintained in all material respects.

Our audit included obtaining an understanding of internal control over financial reporting, assessing the risk that a material weakness exists, testing and evaluating the design and operating effectiveness of internal control based on the assessed risk, and performing such other procedures as we considered necessary in the circumstances. We believe that our audit provides a reasonable basis for our opinion.

Definition and Limitations of Internal Control Over Financial Reporting

A company's internal control over financial reporting is a process designed to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles. A company's internal control over financial reporting includes those policies and procedures that (1) pertain to the maintenance of records that, in reasonable detail, accurately and fairly reflect the transactions and dispositions of the assets of the company; (2) provide reasonable assurance that transactions are recorded as necessary to permit preparation of financial statements in accordance with generally accepted accounting principles, and that receipts and expenditures of the company are being made only in accordance with authorizations of management and directors of the company; and (3) provide reasonable assurance regarding prevention or timely detection of unauthorized acquisition, use, or disposition of the company's assets that could have a material effect on the financial statements.

Because of its inherent limitations, internal control over financial reporting may not prevent or detect misstatements. Also, projections of any evaluation of effectiveness to future periods are subject to the risk that controls may become inadequate because of changes in conditions, or that the degree of compliance with the policies or procedures may deteriorate.

/s/ Ernst & Young LLP

Seattle, Washington
February 2, 2021

Item 9B. ***Other Information***

Disclosure Pursuant to Section 13(r) of the Exchange Act

As previously disclosed, we determined that, between January 2012 and June 2020, we processed and delivered orders of consumer products for certain individuals and entities located outside Iran covered by the Iran Threat Reduction and Syria Human Rights Act. The information provided pursuant to Section 13(r) of the Exchange Act in Item 5 of Part II of the Company's Quarterly Reports on 10-Q for the quarters ended March 31, 2020 and June 30, 2020 is hereby incorporated by reference to such reports.

PART III

Item 10. ***Directors, Executive Officers, and Corporate Governance***

Information regarding our Executive Officers required by Item 10 of Part III is set forth in Item 1 of Part I "Business — Information About Our Executive Officers." Information required by Item 10 of Part III regarding our Directors and any material changes to the process by which security holders may recommend nominees to the Board of Directors is included in our Proxy Statement relating to our 2021 Annual Meeting of Shareholders, and is incorporated herein by reference. Information relating to our Code of Business Conduct and Ethics and, to the extent applicable, compliance with Section 16(a) of the 1934 Act is set forth in our Proxy Statement relating to our 2021 Annual Meeting of Shareholders and is incorporated herein by reference. To the extent permissible under Nasdaq rules, we intend to disclose amendments to our Code of Business Conduct and Ethics, as well as waivers of the provisions thereof, on our investor relations website under the heading "Corporate Governance" at amazon.com/ir.

Item 11. ***Executive Compensation***

Information required by Item 11 of Part III is included in our Proxy Statement relating to our 2021 Annual Meeting of Shareholders and is incorporated herein by reference.

Item 12. ***Security Ownership of Certain Beneficial Owners and Management and Related Shareholder Matters***

Information required by Item 12 of Part III is included in our Proxy Statement relating to our 2021 Annual Meeting of Shareholders and is incorporated herein by reference.

Item 13. ***Certain Relationships and Related Transactions, and Director Independence***

Information required by Item 13 of Part III is included in our Proxy Statement relating to our 2021 Annual Meeting of Shareholders and is incorporated herein by reference.

Item 14. ***Principal Accountant Fees and Services***

Information required by Item 14 of Part III is included in our Proxy Statement relating to our 2021 Annual Meeting of Shareholders and is incorporated herein by reference.

PART IV

Item 15. ***Exhibits, Financial Statement Schedules***

(a) *List of Documents Filed as a Part of This Report:*

(1) *Index to Consolidated Financial Statements:*

Report of Ernst & Young LLP, Independent Registered Public Accounting Firm

Consolidated Statements of Cash Flows for each of the three years ended December 31, 2020

Consolidated Statements of Operations for each of the three years ended December 31, 2020

Consolidated Statements of Comprehensive Income for each of the three years ended December 31, 2020

Consolidated Balance Sheets as of December 31, 2019 and 2020

Consolidated Statements of Stockholders' Equity for each of the three years ended December 31, 2020

Notes to Consolidated Financial Statements

Report of Ernst & Young LLP, Independent Registered Public Accounting Firm

(2) *Index to Financial Statement Schedules:*

All schedules have been omitted because the required information is included in the consolidated financial statements or the notes thereto, or because it is not required.

(3) *Index to Exhibits*

See exhibits listed under Part (b) below.

(b) *Exhibits:*

Exhibit Number	Description
3.1	Restated Certificate of Incorporation of the Company (incorporated by reference to the Company's Current Report on Form 8K, filed May 29, 2020).
3.2	Amended and Restated Bylaws of the Company (incorporated by reference to the Company's Current Report on Form 8-K, filed May 29, 2020).
4.1	Indenture, dated as of November 29, 2012, between Amazon.com, Inc. and Wells Fargo Bank, National Association, as trustee, and Form of 0.650% Note due 2015, Form of 1.200% Note due 2017, and Form of 2.500% Note due 2022 (incorporated by reference to the Company's Current Report on Form 8-K, filed November 29, 2012).
4.2	Officers' Certificate of Amazon.com, Inc., dated as of December 5, 2014, containing Form of 2.600% Note due 2019, Form of 3.300% Note due 2021, Form of 3.800% Note due 2024, Form of 4.800% Note due 2034, and Form of 4.950% Note due 2044 (incorporated by reference to the Company's Current Report on Form 8-K, filed December 5, 2014).
4.3	Officers' Certificate of Amazon.com, Inc., dated as of August 22, 2017, containing Form of 1.900% Note due 2020, Form of 2.400% Note due 2023, Form of 2.800% Note due 2024, Form of 3.150% Note due 2027, Form of 3.875% Note due 2037, Form of 4.050% Note due 2047, and Form of 4.250% Note due 2057 (incorporated by reference to the Company's Current Report on Form 8-K, filed August 22, 2017).
4.4	Officers' Certificate of Amazon.com, Inc., dated as of December 20, 2017, containing Form of 5.200% Note due 2025 (incorporated by reference to the Company's Current Report on Form 8-K, filed December 20, 2017).
4.5	Officers' Certificate of Amazon.com, Inc., dated as of June 3, 2020, containing Form of 0.400% Note due 2023, Form of 0.800% Note due 2025, Form of 1.200% Note due 2027, Form of 1.500% Note due 2030, Form of 2.500% Note due 2050, and Form of 2.700% Note due 2060 (incorporated by reference to the Company's Current Report on Form 8-K, filed June 3, 2020).
4.6	Description of Securities (incorporated by reference to the Company's Annual Report on Form 10-K for the Year ended December 31, 2019).
10.1†	1997 Stock Incentive Plan (amended and restated) (incorporated by reference to the Company's Quarterly Report on Form 10-Q for the Quarter ended March 31, 2013).

10.2†	1999 Nonofficer Employee Stock Option Plan (amended and restated) (incorporated by reference to the Company's Quarterly Report on Form 10-Q for the Quarter ended March 31, 2013).
10.3†	Form of Indemnification Agreement between the Company and each of its Directors (incorporated by reference to Exhibit 10.1 to the Company's Registration Statement on Form S-1 (Registration No. 333-23795) filed March 24, 1997, as amended on April 21, 1997).
10.4†	Form of Restricted Stock Unit Agreement for Officers and Employees (incorporated by reference to the Company's Annual Report on Form 10-K for the Year ended December 31, 2002).
10.5†	Form of Restricted Stock Unit Agreement for Directors (incorporated by reference to the Company's Annual Report on Form 10-K for the Year ended December 31, 2002).
10.6†	Form of Restricted Stock Agreement (incorporated by reference to the Company's Annual Report on Form 10-K for the Year ended December 31, 2001).
10.7†	Form of Global Restricted Stock Unit Award Agreement for Executive Officers (incorporated by reference to the Company's Annual Report on Form 10-K for the Year ended December 31, 2018).
10.8	Amended and Restated Credit Agreement, dated as of June 23, 2020, among Amazon.com, Inc., JPMorgan Chase Bank, N.A., as administrative agent, and the other lenders party thereto (incorporated by reference to the Company's Current Report on Form 8-K, filed June 23, 2020).
21.1	List of Significant Subsidiaries.
23.1	Consent of Independent Registered Public Accounting Firm.
31.1	Certification of Jeffrey P. Bezos, Chairman and Chief Executive Officer of Amazon.com, Inc., pursuant to Rule 13a-14(a) under the Securities Exchange Act of 1934.
31.2	Certification of Brian T. Olsavsky, Senior Vice President and Chief Financial Officer of Amazon.com, Inc., pursuant to Rule 13a-14(a) under the Securities Exchange Act of 1934.
32.1	Certification of Jeffrey P. Bezos, Chairman and Chief Executive Officer of Amazon.com, Inc., pursuant to 18 U.S.C. Section 1350.
32.2	Certification of Brian T. Olsavsky, Senior Vice President and Chief Financial Officer of Amazon.com, Inc., pursuant to 18 U.S.C. Section 1350.
101	The following financial statements from the Company's Annual Report on Form 10-K for the year ended December 31, 2020, formatted in XBRL: (i) Consolidated Statements of Cash Flows, (ii) Consolidated Statements of Operations, (iii) Consolidated Statements of Comprehensive Income, (iv) Consolidated Balance Sheets, (v) Consolidated Statements of Stockholders' Equity, and (vi) Notes to Consolidated Financial Statements, tagged as blocks of text and including detailed tags. As permitted by Item 601(b)(4)(iii)(A) of Regulation S-K, the Company has not filed with this Annual Report on Form 10-K certain instruments defining the rights of holders of long-term debt of the Company and its subsidiaries because the total amount of securities authorized thereunder does not exceed 10 percent of the total assets of the Company and its subsidiaries on a consolidated basis. The Company agrees to furnish a copy of such agreements to the Commission upon request.
104	The cover page from the Company's Annual Report on Form 10-K for the year ended December 31, 2020, formatted in iXBRL (included as Exhibit 101).

† Executive Compensation Plan or Agreement.

Item 16. ***Form 10-K Summary***

None.

SIGNATURES

Pursuant to the requirements of Section 13 or 15(d) of the Securities Exchange Act of 1934, the registrant has duly caused this Report to be signed on its behalf by the undersigned, thereunto duly authorized, as of February 2, 2021.

AMAZON.COM, INC.

By: /s/ Jeffrey P. Bezos

Jeffrey P. Bezos

President, Chief Executive Officer, and Chairman of the Board

Pursuant to the requirements of the Securities Exchange Act of 1934, this Report has been signed below by the following persons on behalf of the registrant and in the capacities indicated as of February 2, 2021.

Signature	Title
/s/ Jeffrey P. Bezos **Jeffrey P. Bezos**	Chairman of the Board, President, and Chief Executive Officer (Principal Executive Officer)
/s/ Brian T. Olsavsky **Brian T. Olsavsky**	Senior Vice President and Chief Financial Officer (Principal Financial Officer)
/s/ Shelley L. Reynolds **Shelley L. Reynolds**	Vice President, Worldwide Controller (Principal Accounting Officer)
/s/ Keith B. Alexander **Keith B. Alexander**	Director
/s/ Rosalind G. Brewer **Rosalind G. Brewer**	Director
/s/ Jamie S. Gorelick **Jamie S. Gorelick**	Director
/s/ Daniel P. Huttenlocher **Daniel P. Huttenlocher**	Director
/s/ Judith A. McGrath **Judith A. McGrath**	Director
/s/ Indra K. Nooyi **Indra K. Nooyi**	Director
/s/ Jonathan J. Rubinstein **Jonathan J. Rubinstein**	Director
/s/ Thomas O. Ryder **Thomas O. Ryder**	Director
/s/ Patricia Q. Stonesifer **Patricia Q. Stonesifer**	Director
/s/ Wendell P. Weeks **Wendell P. Weeks**	Director

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Exhibit 21.1

AMAZON.COM, INC.
LIST OF SIGNIFICANT SUBSIDIARIES

Legal Name	Jurisdiction	Percent Owned
Amazon.com Services LLC	Delaware	100 %
Amazon.com Sales, Inc.	Delaware	100 %
Amazon Data Services, Inc.	Delaware	100 %
Amazon Overseas Holdings, Inc.	Delaware	100 %
Amazon Web Services, Inc.	Delaware	100 %
Amazon Technologies, Inc.	Nevada	100 %
Amazon.com NV Investment Holdings LLC	Nevada	100 %

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Exhibit 23.1

Consent of Independent Registered Public Accounting Firm

We consent to the incorporation by reference in the following Registration Statements:

(a) Registration Statement (Form S-4 No. 333-55943), as amended, pertaining to the acquisition shelf-registration of up to 30 million shares of common stock,

(b) Registration Statement (Form S-8 No. 333-28763), as amended, pertaining to the Amazon.com, Inc. 1997 Stock Incentive Plan (formerly the "1997 Stock Option Plan") and the Amended and Restated 1994 Stock Option Plan of Amazon.com, Inc.,

(c) Registration Statement (Form S-8 No. 333-74419) pertaining to the Amazon.com, Inc. 1999 Nonofficer Employee Stock Option Plan,

(d) Registration Statement (Form S-8 POS No. 333-160831) pertaining to the Zappos.com, Inc. 2009 Stock Plan,

(e) Registration Statement (Form S-8 No. 333-169470) pertaining to 25,000,000 shares of Common Stock, par value $0.01 per share, to be issued pursuant to the Company's 1997 Stock Incentive Plan,

(f) Registration Statement (Form S-8 No. 333-173054), pertaining to the Quidsi, Inc. (fka1800Diapers, Inc.) 2006 Stock Option/Stock Issuance Plan,

(g) Registration Statement (Form S-8 No. 333-181073) pertaining to the Kiva Systems, Inc. 2003 Stock Plan, as amended,

(h) Registration Statement (Form S-8 No. 333-199572) pertaining to the Twitch Interactive, Inc. Amended and Restated 2007 Stock Plan,

(i) Registration Statement (Form S-8 No. 333-207591) pertaining to the Elemental Technologies, Inc. 2006 Stock Incentive Plan, as amended and restated,

(j) Registration Statement (Form S-3 No. 333-238831) pertaining to the shelf-registration of Amazon.com, Inc. securities, and

(k) Registration Statement (Form S-8 No. 333-249847) pertaining to the Amazon.com, Inc. 1997 Stock Incentive Plan (as Amended and Restated).

of our reports dated February 2, 2021, with respect to the consolidated financial statements of Amazon.com, Inc. and the effectiveness of internal control over financial reporting of Amazon.com, Inc. included in this Annual Report (Form 10-K) of Amazon.com, Inc. for the year ended December 31, 2020.

/s/ Ernst & Young LLP

Seattle, Washington
February 2, 2021

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Exhibit 31.1

CERTIFICATIONS

I, Jeffrey P. Bezos, certify that:

1. I have reviewed this Form 10-K of Amazon.com, Inc.;

2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;

3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this report;

4. The registrant's other certifying officer(s) and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the registrant and have:

(a) Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;

(b) Designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;

(c) Evaluated the effectiveness of the registrant's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and

(d) Disclosed in this report any change in the registrant's internal control over financial reporting that occurred during the registrant's most recent fiscal quarter (the registrant's fourth fiscal quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, the registrant's internal control over financial reporting; and

5. The registrant's other certifying officer(s) and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant's auditors and the audit committee of the registrant's board of directors (or persons performing the equivalent functions):

(a) All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant's ability to record, process, summarize and report financial information; and

(b) Any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal control over financial reporting.

/s/ Jeffrey P. Bezos

Jeffrey P. Bezos
Chairman and Chief Executive Officer
(Principal Executive Officer)

Date: February 2, 2021

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Exhibit 31.2

CERTIFICATIONS

I, Brian T. Olsavsky, certify that:

1. I have reviewed this Form 10-K of Amazon.com, Inc.;

2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;

3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this report;

4. The registrant's other certifying officer(s) and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the registrant and have:

(a) Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;

(b) Designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;

(c) Evaluated the effectiveness of the registrant's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and

(d) Disclosed in this report any change in the registrant's internal control over financial reporting that occurred during the registrant's most recent fiscal quarter (the registrant's fourth fiscal quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, the registrant's internal control over financial reporting; and

5. The registrant's other certifying officer(s) and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant's auditors and the audit committee of the registrant's board of directors (or persons performing the equivalent functions):

(a) All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant's ability to record, process, summarize and report financial information; and

(b) Any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal control over financial reporting.

/s/ Brian T. Olsavsky

Brian T. Olsavsky
Senior Vice President and
Chief Financial Officer
(Principal Financial Officer)

Date: February 2, 2021

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Exhibit 32.1

Certification Pursuant to 18 U.S.C. Section 1350

In connection with the Annual Report of Amazon.com, Inc. (the "Company") on Form 10-K for the year ended December 31, 2020, as filed with the Securities and Exchange Commission (the "SEC") on or about the date hereof (the "Report"), I, Jeffrey P. Bezos, Chairman and Chief Executive Officer of the Company, certify, pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002, that:

(1) The Report fully complies with the requirements of Section 13(a) or 15(d) of the Securities Exchange Act of 1934; and

(2) The information contained in the Report fairly presents, in all material respects, the financial condition and results of operations of the Company.

A signed original of this written statement has been provided to the Company and will be retained by the Company and furnished to the SEC or its staff upon request.

/s/ Jeffrey P. Bezos

Jeffrey P. Bezos
Chairman and Chief Executive Officer
(Principal Executive Officer)

Date: February 2, 2021

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Exhibit 32.2

Certification Pursuant to 18 U.S.C. Section 1350

In connection with the Annual Report of Amazon.com, Inc. (the "Company") on Form 10-K for the year ended December 31, 2020, as filed with the Securities and Exchange Commission (the "SEC") on or about the date hereof (the "Report"), I, Brian T. Olsavsky, Senior Vice President and Chief Financial Officer of the Company, certify, pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002, that:

(1) The Report fully complies with the requirements of Section 13(a) or 15(d) of the Securities Exchange Act of 1934; and

(2) The information contained in the Report fairly presents, in all material respects, the financial condition and results of operations of the Company.

A signed original of this written statement has been provided to the Company and will be retained by the Company and furnished to the SEC or its staff upon request.

/s/ Brian T. Olsavsky

Brian T. Olsavsky
Senior Vice President and
Chief Financial Officer
(Principal Financial Officer)

Date: February 2, 2021

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Fortune 500

Looking For Something? SEARCH

2021 2020 2019 2018 2017 2016 2015 2(

Filters

SECTOR

INDUSTRY

HEADQUARTERS CITY

HEADQUARTERS STATE

- GAINED IN RANK
- DROPPED IN RANK
- NEWCOMER TO THE FORTUNE 500
- PROFITABLE
- FOUNDER IS CEO
- FEMALE CEO
- GROWTH IN JOBS
- GLOBAL 500
- BEST COMPANIES
- MEASURE UP

RANK	NAME	REVENUES ($M)	REVENUE PERCENT CHANGE	PROFITS ($M)	PROFITS PERCENT CHANGE	ASSETS ($M)	MARKET VALUE — AS OF MARCH 31, 2021 ($M)	CHANGE IN RANK (FULL 1000)	EMPLOYEES	CHANGE IN RANK (500 ONLY)	MEASURE UP RANK
		REMOVE	REMOVE	REMOVE	REMOVE	REMOVE	REMOVE	REMOVE	REMOVE	REMOVE	REMOVE
1	Walmart	$559,151	6.7%	$13,510	-9.2%	$252,496	$382,642.8	-	2,300,000	-	20
2	Amazon	$386,064	37.6%	$21,331	84.1%	$321,195	$1,558,069.6	-	1,298,000	-	11
3	Apple	$274,515	5.5%	$57,411	3.9%	$323,888	$2,050,665.9	1	147,000	1	188
4	CVS Health	$268,706	4.6%	$7,179	8.2%	$230,715	$98,653.2	1	256,500	1	57
5	UnitedHealth Group	$257,141	6.2%	$15,403	11.3%	$197,289	$351,725	2	330,000	2	25
6	Berkshire Hathaway	$245,510	-3.6%	$42,521	-47.8%	$873,729	$587,823	-	360,000	-	-
7	McKesson	$231,051	7.8%	$900	2547.1%	$61,247	$31,044	1	70,000	1	205
8	AmerisourceBergen	$189,893.9	5.7%	$-3,408.7	-498.5%	$44,274.8	$24,169.7	2	21,500	2	120
9	Alphabet	$182,527	12.8%	$40,269	17.3%	$319,616	$1,392,561.8	2	135,301	2	215
10	Exxon Mobil	$181,502	-31.5%	$-22,440	-256.5%	$332,750	$236,355.4	-7	72,000	-7	327

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Feb 5, 2021, 09:55am EST | 11,011 views

Amazon's Third-Party Marketplace Is Its Cash Cow, Not AWS

Pamela N. Danziger Senior Contributor
Retail
I study the world's most powerful consumers -- The American Affluent

Listen to article 8 minutes

"The Amazon seller is the most profitable customer of Amazon," says Jason Boyce, co-author of "The ... [+] DPA/PICTURE ALLIANCE VIA GETTY IMAGES

Ever since Amazon's earnings call this past Tuesday, the business world has been abuzz with one Amazon story and one story alone: Jeff Bezos is

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stepping aside as CEO and transitioning to the new role of Executive Chair. That bombshell news completely overshadowed the company's impressive performance in fourth quarter and for the year ending December 31, 2020.

Fourth-quarter revenues were up 44%, largely due to moving Prime Day to October, with year-end rising 38% to $386.1 billion in total revenues. Net product retail sales made up over half of that total, or $215.9 billion, with service sales making up the rest, $170.2 billion.

What other talk there's been was around the company's highly-profitable AWS business, generating nearly 60% of the company's operating income. That's because Andy Jassy, who leads that division, will take over as CEO in the third quarter.

Profitable it may be, but AWS is small in comparison to Amazon's other businesses. It accounted for only about 12% of the company's reported revenue in 2020 – $45.4 billion. However, CFO Brian T. Olsavsky described it as currently a $51 billion annualized run-rate business in the earnings call.

And it's even smaller if you peel back the layers and look at the actual gross merchandise value of the products Amazon sells.

"It was funny the timing of the Bezos announcement," says Jason Boyce, co-author of *The Amazon Jungle* and founder of Avenue7Media, which helps brands navigate the treacherous waters selling in the Amazon Marketplace.

MORE FOR YOU

'No Christmas Trees, No Christmas Trees' Another Shortage May Be On The Way

The Grocery Business Is Going To Get Much More Competitive

Costco Addresses Supply Chain Pains By Chartering Their Own Ships

"Any other company would be pounding their chests about their remarkable quarter in terms of market share and profit gains. But no, they want it

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hidden, especially from Senator Elizabeth Warren," he quips. "They're big. They're scary. They're scary big!"

Amazon's reach equals its grasp

What scares Boyce and should scare retailers of every size is the sheer magnitude of Amazon's reach into the consumer market. There are an estimated 126 million American Prime members – the company doesn't disclose the actual number – which is virtually the same as the total number of U.S. households or 128.5 million.

Further, more than half (53%) of product searches start on Amazon and only 23% on search engines. And many of those searches are likely to lead to Amazon.

Only 16% of searches are on a retailer or brand website and 8% in other marketplaces. And nobody knows how many searches originating on these sites end up bouncing over to Amazon for price comparison or free shipping with Prime.

It's Amazon's third-party Marketplace that the company doesn't want to talk about, other than general messaging about how Amazon empowers small and mid-sized businesses.

"During the holiday season as a whole, small and medium-sized businesses in the U.S. sold nearly one billion products in Amazon's store," Amazon said in a statement, adding that sales for independent businesses selling on Amazon grew over 50% compared to 2019.

Marketplace's hidden fortunes

What's missing is the actual dollar value of retail sales on Amazon. "They don't talk about the third-party Marketplace and its gross merchandise value (GMV) or the dollar value of goods sold on Amazon.com AMZN +1% AMZN +1%," Boyce shares. "Analysts have done the calculations and estimate

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Amazon's GMV is about $490 billion in total and about $300 billion of that is from third-party sellers."

He goes on to unpack the Marketplace numbers, which are hidden in Amazon's SEC reporting. He estimates seller fees are 15% of the $300 billion or $45 billion. Fulfillment by Amazon is another 10% or $30 billion. And ads are about 15% too.

"That all amounts to about $120 billion added to Amazon's top line. That is a lot bigger than the $51 billion that AWS brings in," Boyce says, adding that Amazon has to be more open about its AWS business because so many major companies have to report AWS as critical infrastructure to the SEC.

"AWS is in the public domain, but Marketplace isn't. And just like AWS, Marketplace is printing money for Amazon," Boyce asserts. "But nobody knows this and they most especially don't want the antitrust attorneys to know that they are way bigger than anyone imagines. Amazon is knocking on the door to Walmart WMT +0.7% WMT +0.7% [$524 billion in 2020] and will pass it to become the largest U.S.-based retailer in the world."

He further notes that based upon the GMV estimate, Amazon holds about a 50% share of the $971.6 billion non-store retail market in 2020.

Call to pull back the curtain

Amazon is too big not to to be required to be more transparent. "Shouldn't a big public company be required to share that information [i.e. GMV]?" he asks. "That's the bombshell for me. In the earnings call, what was not said was what was most important, but they're worried about antitrust and they don't want their competitors to know how profitable the Marketplace business is."

Through a company spokesperson, Amazon says simply that its "financial reporting complies with the Securities and Exchange Commission requirements, including with respect to our segments. We do not comment

COEX-8.40

on the financial results of specific operations, and do not manage our retail businesses as a separate operation."

Boyce contends that the SEC reporting requirements and monopoly laws have not caught up with the digital marketplace in general and Amazon specifically. He observes that when Standard Oil was broken up in 1911, it held about 60% of the market and its monopoly powers were hurting consumers. That isn't the case with Amazon. Consumers have benefited greatly from Amazon's low prices and added services.

Who is getting hurt by Amazon are its third-party sellers, not necessarily the consumers. "The Amazon seller is the most profitable customer of Amazon. Sellers drive more profit to the bottom line, more than the consumers," Boyce believes.

In the Marketplace, Amazon writes the rules and changes them at will. "Third-party sellers give up their rights to sue Amazon. Sellers basically have no rights," he continues. "For example, if I as a seller offer a product for $5 less on Walmart, Amazon will do something called buybox suppression. They'll basically kill my listing and I will lose all of my digital real estate until I raise my price on Walmart. That isn't good for consumers or for sellers."

And he goes on to warn that the more competitors Amazon kills off and the more third-party sellers it brings onto the Marketplace platform, the more incentive it will have to raise prices.

"The legislators need to write the laws for the 21st-century monopoly first and then go after them. Anything that that makes Amazon less opaque, that makes Google GOOG +1.8% GOOG +1.8% less opaque or Facebook less opaque, in my opinion, is good for small business. It's good for the consumer, and it's good for the country," he concludes.

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8.40

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Pamela N. Danziger

I am a market researcher, speaker and author focused on the affluent consumers' behavior and mindset, including the HENRYs (high-earners-not-rich-yet) mass affluent. I... **Read More**

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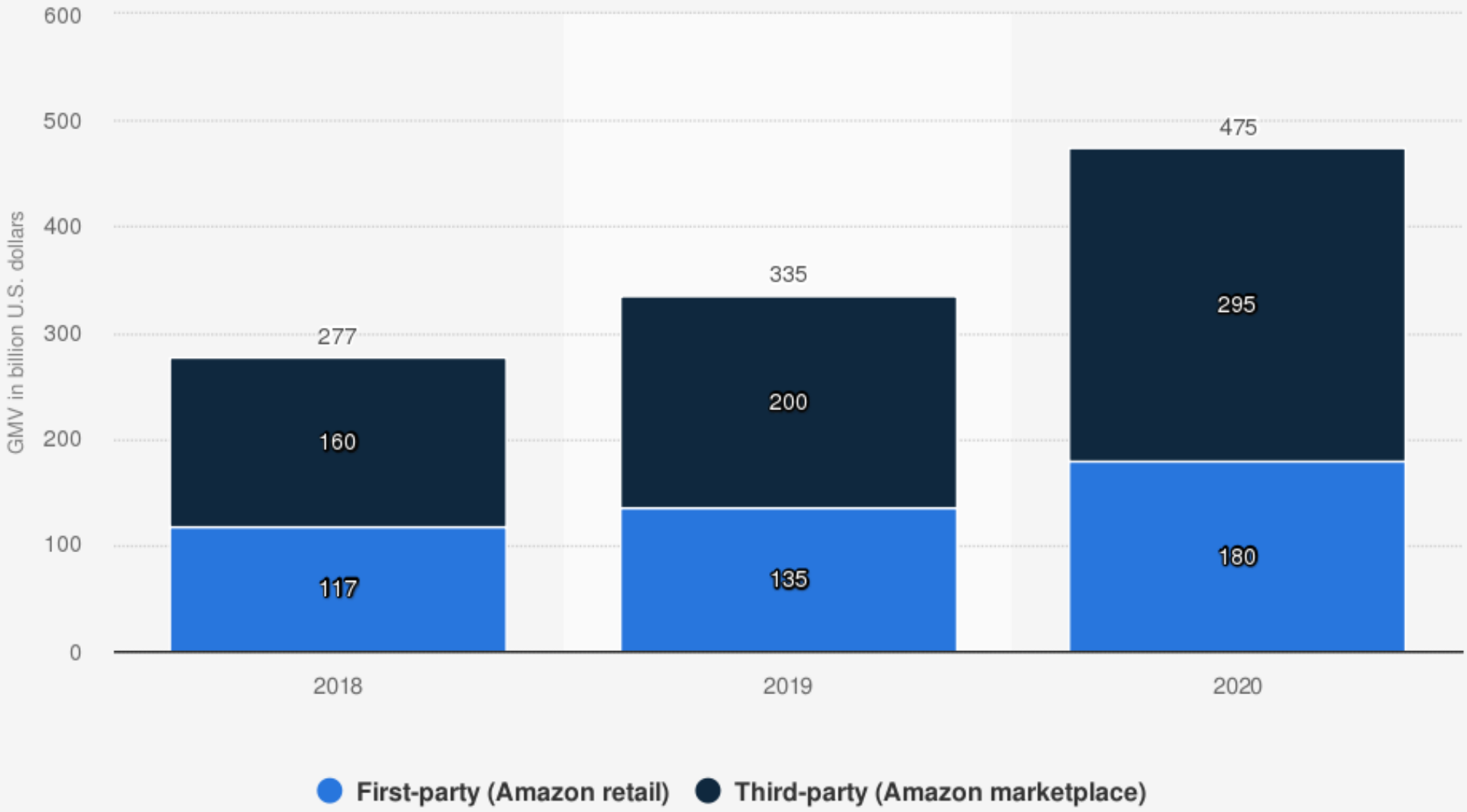
Global gross merchandise volume (GMV) of Amazon from 2018 to 2020, by seller type (in billion U.S. dollars)



Sources
Marketplace Pulse; Amazon

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Additional Information:
Worldwide; Amazon; 2018 to 2020; Estimates

statista

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Global 500

Looking For Something? SEARCH

2021 2020 2019 2018 2017 2016 2015 2(

Filters

SECTOR

INDUSTRY

COUNTRY / TERRITORY

HEADQUARTERS CITY

HEADQUARTERS STATE

- NEWCOMER TO THE GLOBAL 500
- GAINED IN RANK
- WORLD'S MOST ADMIRED COMPANIES
- GROWTH IN JOBS
- FASTEST GROWING COMPANIES
- BEST COMPANIES
- FUTURE 50
- DROPPED IN RANK
- PROFITABLE
- FEMALE CEO
- CHANGE THE WORLD
- FORTUNE 500
- NON-U.S. COMPANIES

RANK	NAME	REMOVE ✕ REVENUES ($M)	REMOVE ✕ REVENUE PERCENT CHANGE	REMOVE ✕ PROFITS ($M)	REMOVE ✕ PROFITS PERCENT CHANGE	REMOVE ✕ ASSETS ($M)	REMOVE ✕ EMPLOYEES	REMOVE ✕ CHANGE IN RANK	REMOVE ✕ YEARS ON GLOBAL 500 LIST
1	Walmart	$559,151	6.7%	$13,510	-9.2%	$252,496	2,300,000	-	27
2	State Grid	$386,617.7	0.7%	$5,580.4	-30%	$666,088.5	896,360	1	21
3	Amazon	$386,064	37.6%	$21,331	84.1%	$321,195	1,298,000	6	13
4	China National Petroleum	$283,957.6	-25.1%	$4,575.2	3%	$626,616.7	1,242,245	-	21
5	Sinopec Group	$283,727.6	-30.3%	$6,205.2	-8.7%	$343,289	553,833	-3	23
6	Apple	$274,515	5.5%	$57,411	3.9%	$323,888	147,000	6	19
7	CVS Health	$268,706	4.6%	$7,179	8.2%	$230,715	256,500	6	26
8	UnitedHealth Group	$257,141	6.2%	$15,403	11.3%	$197,289	330,000	7	25
9	Toyota Motor	$256,721.7	-6.5%	$21,180.1	13.1%	$562,994	366,283	1	27
10	Volkswagen	$253,965	-10.2%	$10,103.5	-35%	$608,368.1	662,575	-3	27

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S&P Global
Market Intelligence

Spotify Technology S.A. NYSE:SPOT

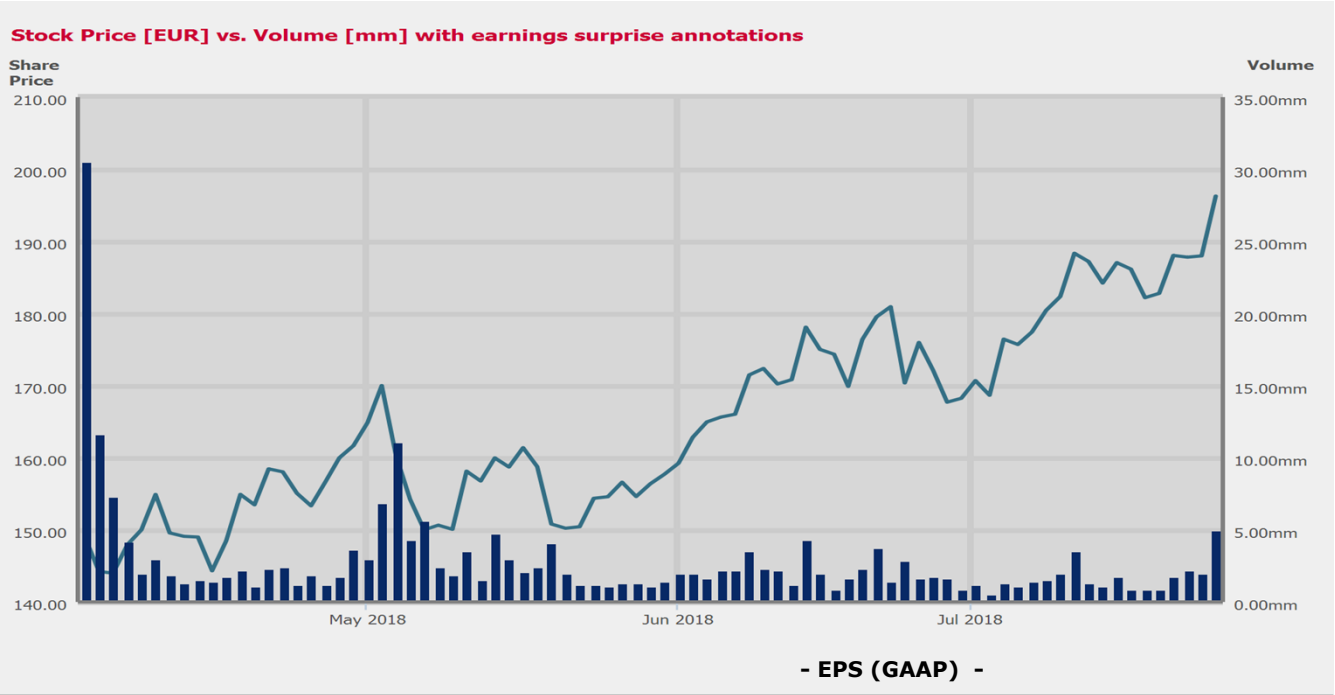
FQ2 2018 Earnings Call Transcripts

Thursday, July 26, 2018 12:00 PM GMT

S&P Global Market Intelligence Estimates

	-FQ2 2018-			-FQ3 2018-	-FY 2018-	-FY 2019-
	CONSENSUS	ACTUAL	SURPRISE	CONSENSUS	CONSENSUS	CONSENSUS
EPS (GAAP)	(0.66)	(2.20)	NM	(0.31)	(2.41)	(0.89)
Revenue (mm)	1270.55	1273.00	▲0.19	1314.67	5197.70	6677.11

Currency: EUR
Consensus as of Jul-26-2018 12:53 PM GMT



- EPS (GAAP) -

	CONSENSUS	ACTUAL	SURPRISE
FQ1 2018	(0.31)	(1.01)	NM
FQ2 2018	(0.66)	(2.20)	NM

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Call Participants

EXECUTIVES

Daniel G. Ek
Co-Founder, CEO & Chairman

Paul Aaron Vogel
VP, Head of Finance/FP&A and Investor Relations

W. Barry McCarthy
Chief Financial Officer

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Presentation

Operator

Welcome to Spotify's Second Quarter 2018 Financial Results Question-and-Answer Session. A copy of the company's shareholder letter issued before the market opened today is available on the Investor Relations website, investors.spotify.com. This call is being recorded, and an archived replay will be available on the IR site after the event concludes.

I will now turn the call over to Paul Vogel, Head of Investor Relations and FP&A. You may now begin your conference.

Paul Aaron Vogel
VP, Head of Finance/FP&A and Investor Relations

Great. Thanks, Josh. Thank you, and welcome to Spotify's Second Quarter 2018 earnings Conference Call. With us today are Daniel Ek, Spotify's CEO; and Barry McCarthy, Spotify's CFO. The format of today's call will be similar to last quarter. Daniel will give a few brief opening remarks followed by an online question-and-answer session. Questions can be submitted either through the widget alongside the webcast or by e-mailing directly to ir@spotify.com. We'll get to as many questions as we can. The call will last approximately 30 minutes.

Before we begin, let me quickly cover the safe harbor. During this call, we will make forward-looking statements, including projections or estimates about the future performance of the company. These statements are based on current expectations and assumptions that are subject to risks and uncertainties. Actual results could materially differ because of factors discussed on today's call and in our letter to shareholders and filings with the Securities and Exchange Commission.

During this call, we will refer to certain non-IFRS financial measures. Reconciliations between our IFRS and non-IFRS financial measures can be found in our letter to shareholders and on the Financial section of the Investor Relations page on our website and also furnished today on Form 6-K.

And with that, I'll turn it over to Daniel.

Daniel G. Ek
Co-Founder, CEO & Chairman

Thanks, Paul, and thanks everyone for joining today's call. So I think second quarter results showed continued strong growth in all of our core metrics, and our goal is to each quarter deliver within our stated guidance. And most of our key metrics finished towards the top end of our forecast ranges.

And as I said at the Investor Day, we believe we are still in the very early stages of the global streaming market with a very large opportunity still in front of us.

Before we begin the question-and-answer session, I did want to address one thing that has been written about a lot over the past few weeks around Spotify signing direct licensing deals with artists. As we spoke about at our Investor Day, we're really building a 2-sided marketplace that provides tools and services for labels and artists focused on promotion and marketing. And as a platform, we've always licensed music from rights holders both large and small, and we will continue to license music from whomever owns the rights. And we have been doing this for years because our goal is to get as much music onto the Spotify platform as we possibly can.

The long-term success metrics for this platform is: Growing the number of creators on our platform; growing the number of creators using our promotion marketing and career management tools; and three, the number of artists and labels paying us to use those tools and services.

And licensing content does not make us a label nor do we have any interest in becoming a label. We don't own any rights and music, and we're not acting like a record label. Our agreements are specific to Spotify

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and are not exclusive. We want to grow the number of labels and creators on the platform as well as the number of creators using our tools and services. So in some cases, we license from labels and in others, artists, if they own the rights to their own music. We believe there has been some confusion regarding our intention. And for us, it's really about providing the largest opportunity for the widest group of creators and artists to bring their music to Spotify.
Thanks, and now we can begin the question-and-answer session.

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Question and Answer

Paul Aaron Vogel
VP, Head of Finance/FP&A and Investor Relations

Great. Thanks, Daniel. We'll start with our first question from Ross Sandler of Barclays.

Can you unpack what drivers you see over the next few years to bridge the gross margin increase from today's mid-20s to the 30%, 35% range.

Daniel G. Ek
Co-Founder, CEO & Chairman

Well, let's kind of up level and talk strategy for a moment. As I kind of alluded in the opening remarks, the overarching goal for us is to build the marketplace for all creators and labels on how they better interact with Spotify. So if you think about that, that means that we're really trying to grow the number of creators that are on our platform. We're trying to grow the number of creators that are using our tools. And then thirdly, trying to increase the number of those people that then are paying us to use those tools and services. So that's essentially the strategy through which we're going about growing our gross margin. It will be less about ongoing licensing discussion and much more about inclusion of the services that our marketplace is providing.

W. Barry McCarthy
Chief Financial Officer

So let me add, I would like to remind our listeners that at our Investor Day, we included a slide on the long-term margin structure for the business, and included gross margins in the 30% to 35% range. That remains our vision and objective for the business. If we're successful in building a 2-sided marketplace and developing the tools to own demand creation, then I think we'll land comfortably in that range.

Paul Aaron Vogel
VP, Head of Finance/FP&A and Investor Relations

And then Barry, just a quick follow-up because this one came in. You mentioned in the letter that your long-term gross margin target is 30% plus. You mentioned 30%, 35% at the Investor Day. Is there any change?

W. Barry McCarthy
Chief Financial Officer

No. No change. Our objective remains 30%, 35% for gross margins.

Paul Aaron Vogel
VP, Head of Finance/FP&A and Investor Relations

Okay. Thanks. Next question is from Matt Thornton at SunTrust.

Any update on progress on the artist label side of the 2-sided marketplace?

Daniel G. Ek
Co-Founder, CEO & Chairman

Well, I think as has been clear in our earnings remarks, we are seeing really, really good remarks. We're seeing overall growth of 5% of more number of artists being heard. And Spotify for Artists is growing very nicely and has hit a new milestone of over 200,000 artists monthly. Both of those are incredibly positive and are ahead of where we expected.

Paul Aaron Vogel
VP, Head of Finance/FP&A and Investor Relations

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Next question is from Rich Greenfield at BTIG.

Podcast and nonmusic audio appear to be a relatively minor portion of listening time today. We presume 1% to 2%. Is that fair? What are you doing to grow that share over time? And what time frame should we look for progress?

Daniel G. Ek
Co-Founder, CEO & Chairman

It is fair that music is still the vast majority of all listening on our platform. That said, we are very encouraged with the growth of podcast. It's growing really, really fast, but obviously, from a small base to date. It's unclear long-term how big that opportunity is. So I think everyone in the entire industry is trying to figure that out. But we're certainly of the belief that it's going to be a significant portion of what we do going forward and are investing to make both the product experience better and driving the number of creators onboard our platform.

Paul Aaron Vogel
VP, Head of Finance/FP&A and Investor Relations

Our next question comes from Anthony DiClemente at Evercore.

You talk about churn in the quarter, at least directionally. And as you continue to come down as much as expected as the [indiscernible] subscribers ages and as Family and Student plans grow as a percentage of the subscriber mix.

W. Barry McCarthy
Chief Financial Officer

The short answer is yes and yes. Let's say -- let's talk about the business overall, the global business. The churn in the quarter was down year-over-year about 900 basis points. And then I want to -- secondly, I want to talk specifically about U.S., since I've seen a couple of news articles report an increase in churn as a result, I think, of Apple competition. In fact, it's not what happened. We also have seen improvement in the U.S. and in the most recent quarter in the U.S. So a 3-handle on churn rate. So very encouraged by the business overall on a global basis and in the U.S., in particular.

Paul Aaron Vogel
VP, Head of Finance/FP&A and Investor Relations

Great. Our next question is from Eric Sheridan at UBS.

Data analytics, should investors think of this as a standalone business or one that makes the music industry smarter and could play a constructive role in the commercial dialogue with the music industry?

Daniel G. Ek
Co-Founder, CEO & Chairman

Well, data and insights is definitely part of the platform and a key [fundament] for how we view the marketplace. As mentioned, Spotify for Artists today if we just kind of up level for a second and look at what it is, it's amazing insights for artists and labels today about how they are doing and who their audience is. And we've never before been at a place in time where you could make as many informed decisions and understand your audience as well as you can do now as an artist. And we're seeing a lot of these artists making much smarter decisions on the basis of this. As an example, you have an artist like Metallica, who changes their set list on a city-by-city base just by looking at Spotify data to see which are the most popular songs that happen to be in that city. And there are many, many other examples. Our view is if artists and labels have better data and can make better insights, they're going to also take action on those insights. And that's kind of a key fundament that's also been prevalent on the rest of the Internet.

Paul Aaron Vogel
VP, Head of Finance/FP&A and Investor Relations

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Our next question comes from Amy Yong at Macquarie.

As free cash flow piles up, how should we think about priorities of cash? What types of organic, inorganic opportunities do you see? Any update view -- any updated views on balance sheet optimization?

W. Barry McCarthy
Chief Financial Officer

No updates on balance sheet optimization. It's steady as things go. I want to remind everyone that our overarching objective for the business, in addition to our strategic goals, is to continue to generate positive free cash flow ex CapEx investments in new office space in New York, Boston, LA, et cetera. Our goal with respect to cash is to manage it smartly like we do all of the other asset allocation decisions we make in the business. If in the fullness of time, we decide or it becomes clear that the business is overcapitalized, then you should expect us to use that cash productively to buy back shares in the marketplace. We are nowhere near deciding that we cannot constructively deploy the cash we've raised. The biggest single investment opportunity in front of us is to acquire technology that helps us achieve faster the strategic objectives for the business. You've seen us make several acquisitions over time, which has contributed to the success of the business. And we are continuing down that path.

Paul Aaron Vogel
VP, Head of Finance/FP&A and Investor Relations

Our next question is from Jessica Reif Cohen at Bank of America Merrill Lynch.

UMG was reported in the press to be considering a move to monthly accounting for royalties owed to artists versus the current quarterly or semiannual basis. Should this shift happen, how would this impact your working capital profile and free cash flow prospects?

W. Barry McCarthy
Chief Financial Officer

Shouldn't affect the free cash flow of the business at all. We remit to labels monthly.

Paul Aaron Vogel
VP, Head of Finance/FP&A and Investor Relations

Our next question is from Michael Morris at Guggenheim.

Why is your direct artist relationship business not an incremental threat to your relationship with the labels? A recent FT article described labels as withholding rights in India due to your licensing music directly from artists. Is this accurate? How can you grow your direct business without creating risk of poor relationships with the major labels?

Daniel G. Ek
Co-Founder, CEO & Chairman

So again, I think the goal of the marketplace is to create tools for all sizes of artists and labels. And if you just look at a label today and you look at how labels are investing, one of the largest costs for them is to figure out how to effectively market and promote an artist. As we talked about in our marketplace strategy, the key objective that we're pursuing is taking the data and insights that we're generating on our platform and creating tools that allow artists and labels to better market themselves in the marketplace. And so as I look at that, I think that this is a huge opportunity for all labels to become more effective. And if they become more effective, that will allow them to sign even more talent and invest even more. And then, further growing our mission as a company, of course, which is to allow 1 million creators to be able to live off of their art. So this is kind of a key component that make labels more effective than they are today. Then to address specifically your question in regards to India. I think the truth of the matter is when you deal with licensing, and in our case, not just 1 company, but you deal with local publishers, local record companies, global record companies, global publishers, it is always a complicated maneuver. And as much as I would like to say that we can be accurate in timing the estimate on the day when we're going to launch a market is always a local consideration to get that. And this has been true not just in

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India, but it has been true in, I think, pretty much every market that we've ever entered into as well. So delays unfortunately when it comes to licensing for various reasons is just commonplace in this industry and nothing related to our overall strategy.

Paul Aaron Vogel
VP, Head of Finance/FP&A and Investor Relations

Our next question comes from Mark Mahaney at RBC.

Anymore color on Hulu bundle and whether we could see other bundle deals?

Daniel G. Ek
Co-Founder, CEO & Chairman

Well, as we outlined in the remarks as well, we are very encouraged by the early results on both launches, both the Hulu student plan and now the Hulu standalone plan. We are -- this is a huge part of what we are doing, which is trying to find more ways to bring more value to our members on the subscriber base. We don't have anything to announce, but you should look at it as part of our strategy just like we've said before to look at more ways to add more value for our members.

Paul Aaron Vogel
VP, Head of Finance/FP&A and Investor Relations

Next question is from Nick Delfas at Redburn.

My Amazon Echo keeps trying to sell me Amazon music unlimited, even though I have selected Spotify. What are your plans on speakers in home or in car?

Daniel G. Ek
Co-Founder, CEO & Chairman

Well, as we outlined in our Investor Day, one of our key strategic objectives is to be ubiquitous on all platforms. Music is one of those things that are used not just in your home, like video, but really on mobile, in your car and in home. So our strategy is to look at all the major platforms, try to make sure that we have a best-in-class experience on all of those platforms, work with the platform providers of those to enable that experience. And we're seeing great results in the home, and particularly in connected speaker segments. It's still a pretty early market, I would say. And then just specifically to address the car too, that's a longer-term investment from our perspective. We are both working with manufacturers enabling, so that you can connect your phone via Bluetooth. And of course, we are a huge part of Android Auto, which is Google's car initiative and CarPlay, which is Apple's car initiative. So this is part of our overall strategy of being in all places where people might want to have music.

Paul Aaron Vogel
VP, Head of Finance/FP&A and Investor Relations

Next question is from Rob Sanderson from MKM Partners.

The adjusted MAU metric looks to be at the low end of guidance. Did GDPR have an impact? Is the revamp of the ad-supported product performing to expectation? Also, can you offer early observations from the new product?

W. Barry McCarthy
Chief Financial Officer

Let's see -- at a high level, particularly from a revenue and margin perspective, the business is performing towards the high end of our expectations. I think it's clear that the top of funnel MAU growth in the quarter, given street consensus and expectations was a couple of million light, EUR 1.5 million light. But -- and the question is what are the implications of that for future growth of the business? And the answer is, not much different than what we told you to expect last quarter. And the question is why? And the answer is because we're seeing great conversion in the paid business. We're seeing faster growth in the paid business than we were expecting and we're seeing super strong retention in the paid business. GDPR

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was an issue for a couple of weeks, and we're past that speed bump. If it had an impact on revenue in the quarter, it was less than EUR 1 million, so quite small in the grand scheme of things. Now if the premium business grows faster than our expectations, we're going to have fewer free MAUs than we were expecting, which creates a headwind for the free business. Question, is the overall business better off or worse off? And the answer is, the business is better off. It means if the paid business is growing faster than we expected, we will have more revenue than we expected, and we will have higher margins than we expected because the paid business has higher gross margins than the free business does. So it has meant good things for the business as compared with our expectations and you know from our guidance, we're expecting that trend to continue.

Paul Aaron Vogel
VP, Head of Finance/FP&A and Investor Relations

Great. Next one from Ben Swinburne from Morgan Stanley.

Barry, with Family Plan mix pressure moderating, how should we think about organic ARPU declines in the second half?

W. Barry McCarthy
Chief Financial Officer

Yes, I commented on ARPU last quarter. We've seen a sort of seasonal pattern of fluctuation in ARPU last year and expecting a similar pattern this year to decline in Q1, up in Q2, down in Q3, up in Q4. Expect that pattern to continue, point one. Point two, when we launched the Family Plan, we sold it across the entire base. During that launch, there was more downward pressure on ARPU generally because growth in Family Plan [than] you will see this year and going forward, because the installed base has already been sold to. So the only incremental pressure is at the margin. So be mindful of the seasonal pattern and then be mindful of the dynamic change 2017 versus 2018, because there is no installed base to sell across.

Paul Aaron Vogel
VP, Head of Finance/FP&A and Investor Relations

Next question is from Peter Stabler from Wells Fargo.

Does the recent hiring of Dawn Ostroff signal an intention to aggressively pursue original video production?

Daniel G. Ek
Co-Founder, CEO & Chairman

The easy answer on that one is no. Our primary focus as we've said many, many times over is audio and music, in particular. And that remains our focus today.

Paul Aaron Vogel
VP, Head of Finance/FP&A and Investor Relations

The next question is from Heath Terry at Goldman Sachs.

What kind of progress are you seeing in monetizing your ad-supported business? How much of that is ad load and how much is achieving higher eCPMs on your ad units? What's the appropriate long-term level of monetization to assume for ad-supported?

W. Barry McCarthy
Chief Financial Officer

It's mostly about increased sell-through. Ad business is a tale of 2 growth rates, relatively slow growth on desktop and very fast growth on mobile. Increasingly, it's a mobile-first business. We have relatively high margins in our 5 largest markets. Think of them as the developed world, U.S., Western Europe, Australia, New Zealand, Canada [indiscernible] an example. And then significantly lower margins in emerging markets, where we are quite small. So if you're an advertiser, limited opportunity for you to [buy reach] .

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But the dynamics of those markets are changing pretty quickly as we continue to grow quite rapidly. The challenge in those markets is sell-through rate. As they get larger, the challenge diminishes.

Paul Aaron Vogel
VP, Head of Finance/FP&A and Investor Relations

The next question is from John Egbert at Stifel.

It looks like your subscriber growth remains quite healthy. Could you give us any color on specific countries or geographies where you're seeing strong momentum? And perhaps any emerging markets where you're seeing growth [traction] that could meaningfully influence subscriber growth down the road?

W. Barry McCarthy
Chief Financial Officer

I wouldn't single out any particular country or territory with respect to growth in the premium business. We are growing strongly across-the-board. Family Plan is a big driver of growth.

Paul Aaron Vogel
VP, Head of Finance/FP&A and Investor Relations

Next question is from Richard [indiscernible] at UBS.

How has the price increase in Norway been received? Are you planning to launch HD products? If so, how big is the market opportunity?

W. Barry McCarthy
Chief Financial Officer

Let me up level and say, you should not expect to see price increases from us across markets. We're playing a market share game. We're not playing a margin game. There may be opportunities for us in individual markets to test price elasticity like we're doing in Norway, but don't expect a shift in strategy. Now specifically, with respect to Norway, we saw a brief slowdown in growth. And a few weeks later, growth reverted back to its historic level, with no adverse change in churn. So it appears to have been well received in the marketplace.

Paul Aaron Vogel
VP, Head of Finance/FP&A and Investor Relations

Next question is from James Cordwell at Atlantic Equities.

Can you provide more detail on the data policy change you called out in the letter? And what impact it had on ad revenue for Q2? When do you expect ad revenue growth to have fully recovered to the trend you were seeing prior to the change?

W. Barry McCarthy
Chief Financial Officer

Let me just jump in and say it's fully recovered, which is what really matters.

Paul Aaron Vogel
VP, Head of Finance/FP&A and Investor Relations

Our next question is from Ashwin Kesireddy at JP Morgan.

Can you comment on GDPR disruptions during the quarter. Any color on whether this was driven by advertisers taking a wait-and-see approach? Or whether this was a compliance process disruption, which would not repeat going forward?

W. Barry McCarthy
Chief Financial Officer

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Well, not everybody was equally prepared in the marketplace, so that caused some fallout. Then there were some examples of some advertisers who sought to use GDPR as an opportunity to leverage a renegotiation of data sharing in the marketplace. And that friction cleared the market in a couple of weeks, so relatively quickly. So I would say the overall impact from GDPR is ignoring the confusion in the moment when it went live is relatively short-lived.

Paul Aaron Vogel
VP, Head of Finance/FP&A and Investor Relations

Another question for Barry from Justin Patterson at Raymond James.

How should we think about the impact of the new self-serve ads to your platform on the pace and the pace of the rollout? What are your early learnings from Ad Studio?

W. Barry McCarthy
Chief Financial Officer

Well, we're -- yes, I'm not sure how to answer this -- I'm not sure what the question is. I'm not sure if that's a question about Australia, New Zealand or if it's a question generally about the launch of Ad Studio. So let me take it sequentially. In Australia, New Zealand, we have -- we are trying to discover whether or not we can have a more successful business for us and for advertisers by testing pay-per-list and pay-per-view as an alternative to pay-per-CPM. And we're in the very early stages. Let's talk about growth in automation. So this is an automated platform. It -- if it's successful, it will have a large following in the SMB marketplace, which would significantly expand monetization opportunities for our business. And if executed well, will result in an important shift in the overall cost structure of the business, dramatically expanding margins.

Paul Aaron Vogel
VP, Head of Finance/FP&A and Investor Relations

Next question is from Lloyd Walmsley from Deutsche Bank.

Can you give us an update on the competitive environment in the U.S. and otherwise? Is there a phenomenon you have observed, where new entrants in a market can actually stimulate broader demand in a way that helps you?

Daniel G. Ek
Co-Founder, CEO & Chairman

Yes. Well, our global subscriber growth continues to be really strong. And we continue, of course, to meet our growth goals for the business, which you've seen over the last 2 quarters. In the U.S., in particular, we're also performing well and growing rapidly. And the U.S. churn continues to decline year-over-year and is now below 4%. We continue to see a large opportunity for future growth, and our growth is really coming both from the increased paid and ad-supported users in the U.S. So I think a good metric is to look at the total amount of Spotify users we have, and we are now at 2x the size of our nearest competitor in regards to that. So just to level set again, the streaming market really still very much in the early stages, and we're the largest global streaming music platform. And we expect our leadership to continue going forward.

Paul Aaron Vogel
VP, Head of Finance/FP&A and Investor Relations

Next question is from [indiscernible].

Finance cost in Q2 increased to EUR 343 million from EUR 154 million in Q1 and EUR 148 million in Q1 of '17. What is the reason for this increase and do you expect higher finance costs to continue?

W. Barry McCarthy
Chief Financial Officer

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It relates to the 2 things. One is revaluation of the convert, which is now gone. And then secondly, the accounting for the cost of [indiscernible].

Paul Aaron Vogel
VP, Head of Finance/FP&A and Investor Relations

Trying to get more [indiscernible] questions here. From Heath Terry at Goldman Sachs.

What's your strategy for exclusive content such as your podcast deal with Amy Schumer? How do you expect the economics of exclusive content to compare to your deals with the labels and publishers?

Daniel G. Ek
Co-Founder, CEO & Chairman

Well, so first off, let's level set for everyone. In music, we don't believe in exclusivity and haven't participated in that. In podcast, we do see that, that marketplace works differently and that there is room for exclusivity and there is room for original content production to see the marketplace. This is probably something that you should expect us to test and experiment with, [some] marketplaces are more well developed than others. I think, interestingly, as we kind of look at the market, we have a very young audience. Typically, there aren't that much podcast available for them certainly when you look at the global space. Hence, we are very encouraged about seeding that and helping and develop that. As a cost basis, we kind of think, again, [if it's] really well into our dual monetization strategy of both ad-supported and subscription.

Paul Aaron Vogel
VP, Head of Finance/FP&A and Investor Relations

We'll take 2 more questions. One from Ben Swinburne from Morgan Stanley.

Can you give us a sense for engagement trends. Are content hours per user still growing at levels disclosed in the prospectus?

W. Barry McCarthy
Chief Financial Officer

We're not going to break it out, but we continue to feel quite good about the levels of engagement in the service. As we get better at developing the 2-sided marketplace and driving discovery and as we add new forms of content to the platform like podcast, offering consumers a better service, we expect to continue to be able to drive increases in hours consumed.

Paul Aaron Vogel
VP, Head of Finance/FP&A and Investor Relations

We'll take 1 last question from Louis Citroen at Arete Research.

You said last quarter that the launch into new markets was built into your 2018 guidance. Can you give us an update on those, especially in India, Russia and Africa? And how important those geographies were for your 2018 guidance? Any comments around ongoing discussions with the labels, which I think we already addressed?

Daniel G. Ek
Co-Founder, CEO & Chairman

Yes. I think we addressed the conversations with the labels. We're still looking at opportunistically launching in more markets across the world. Obviously, it's the big markets like Russia, India that probably will contribute the most. I don't have any further comments on any specific launch dates on those things. I will say, however, that any impact on our forecast will be minor or immaterial.

Paul Aaron Vogel
VP, Head of Finance/FP&A and Investor Relations

Great. With that, I'll turn over to Daniel for just some final closing comments.

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Daniel G. Ek
Co-Founder, CEO & Chairman

Yes, I would just say thanks again everyone for participating in our second earnings call as a public company. I really hope that you found the earnings call and the answers session helpful. And we will continue to be as open as transparent as possible in providing insights into our business. And of course, as always, we welcome any feedback you have in making the earnings call better, and I look forward to speaking with everyone again next quarter. Thank you, everyone.

Paul Aaron Vogel
VP, Head of Finance/FP&A and Investor Relations

Great. Thank you.

Operator
This concludes today's conference call. You may now disconnect.

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Spotify Technology S.A. NYSE:SPOT

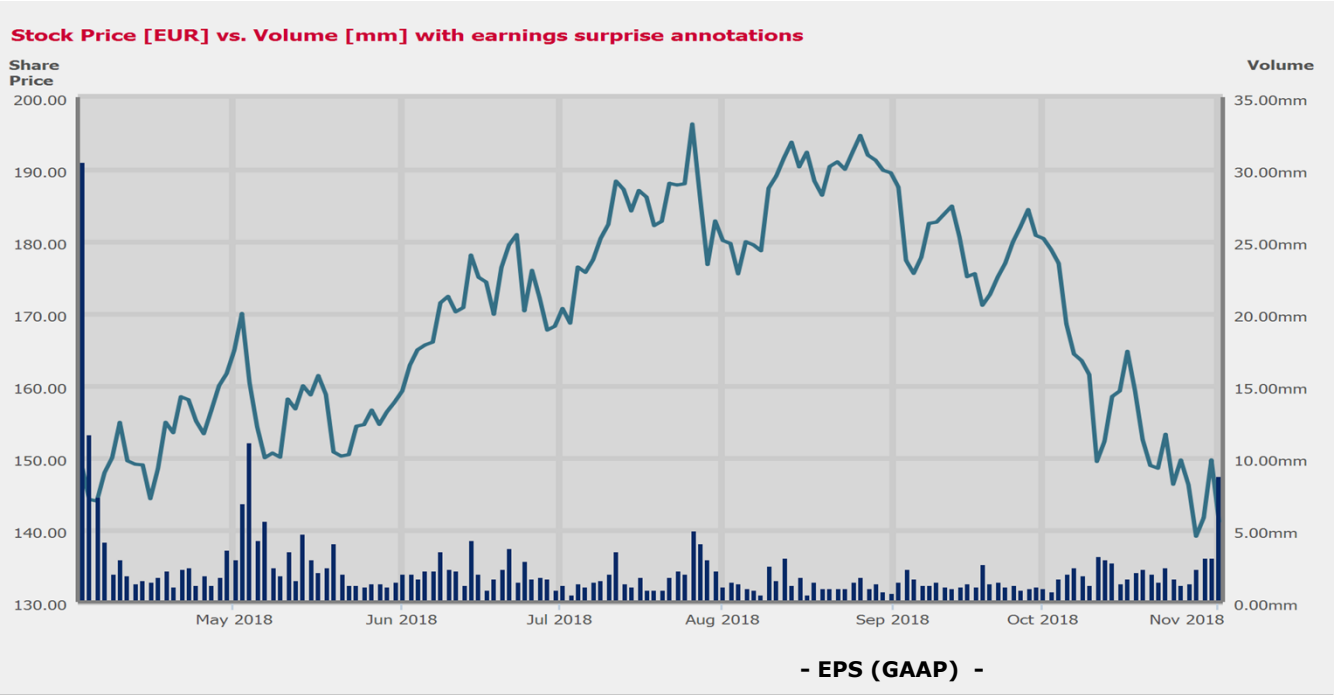
FQ3 2018 Earnings Call Transcripts

Thursday, November 01, 2018 12:00 PM GMT

S&P Global Market Intelligence Estimates

	-FQ3 2018-			-FQ4 2018-	-FY 2018-	-FY 2019-
	CONSENSUS	ACTUAL	SURPRISE	CONSENSUS	CONSENSUS	CONSENSUS
EPS (GAAP)	(0.30)	0.23	NM	(0.32)	(3.82)	(0.73)
Revenue (mm)	1335.80	1352.00	▲1.21	1492.78	5247.39	6746.44

Currency: EUR
Consensus as of Oct-31-2018 7:39 AM GMT



- EPS (GAAP) -

	CONSENSUS	ACTUAL	SURPRISE
FQ1 2018	(0.31)	(1.01)	NM
FQ2 2018	(0.66)	(2.20)	NM
FQ3 2018	(0.30)	0.23	NM

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Call Participants

EXECUTIVES

Daniel Ek
Co-Founder, CEO & Chairman

Paul Aaron Vogel
VP, Head of Finance/FP&A and Investor Relations

W. Barry McCarthy
Chief Financial Officer

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Presentation

Operator

Welcome to Spotify's Third Quarter 2018 Financial Results Question-and-Answer Session. A copy of the company's shareholder letter issued premarket open today is available on the Investor Relations website, investors.spotify.com. This call is being recorded, and an archived replay will be available on the IR site after the event concludes.

I will now turn the call over to Paul Vogel, Head of Investor Relations and FP&A. You may now begin your conference.

Paul Aaron Vogel
VP, Head of Finance/FP&A and Investor Relations

Great. Thank you, and welcome to Spotify's Third Quarter 2018 Earnings Conference Call. With us today are Daniel Ek, Spotify's CEO; and Barry McCarthy, Spotify's CFO. The format of today's call will be similar to prior quarters. Daniel will give a few brief opening remarks, followed by an online question-and-answer session. Questions can be submitted either through the widget alongside the webcast or by emailing directly to ir@spotify.com. We'll get to as many questions as we can, and the call will last approximately 30 minutes.

Before we begin, let me quickly cover the safe harbor. During this call, we will make forward-looking statements, including projections or estimates about the future performance of the company. These statements are based on current expectations and assumptions that are subject to risks and uncertainties. Actual results could materially differ because of factors discussed on today's call and in our letter to shareholders and filings with the Securities and Exchange Commission. During this call, we'll refer to certain non-IFRS financial measures. Reconciliations between our IFRS and non-IFRS financial measures can be found in our letter to shareholders, on the Financials section of Investor Relations page of our website and also furnished today on Form 6-K.

And with that, let me turn over to Daniel for a few brief opening remarks.

Daniel Ek
Co-Founder, CEO & Chairman

All right. Thanks, Paul, and thanks, everyone, for joining today call. Our third quarter results demonstrated continuing strong growth across our business, and most of our key metrics finished towards the top end of our forecast ranges. As we have discussed on prior calls and at the Investor Day, we continued to be focused on building out our 2-sided marketplace. In this quarter, we launched a number of new tools and services for artists, including a direct upload feature for independent artists, a playlist submission for creators looking for ways to get their music onto our editorial playlist and enhanced functionality really across all of Spotify for Artists. And today, approximately 250,000 creators use Spotify for Artists on a monthly basis. And we expect these tools to help us continue to provide the largest opportunity for the widest group of creators and artists.

This quarter, we also announced several important partnerships that represent significant opportunities for growth and additional value for new users and existing subscribers. In the U.S., just yesterday, we announced a new partnership with Google where new and existing Spotify Family plan master account holders can receive a Google Home Mini as part of their subscription. And we see great potential in this partnership. And as we've said before, we made an early strategic bet on connected speakers back in 2014 when we were on the very first Google Home voice speakers to be shipped. Now as connected speakers become more and more important to consumers, we're excited to be adding to our momentum with speakers and voice, and we will continue to build on our partnership with Google over the coming months.

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In the quarter, we also announced a long-term agreement to be the out-of-the-box music service on Samsung devices, and we introduced our first multi-partner bundle in the U.S. with Hulu and Showtime. And we entered into a partnership with Sky, which is Europe's largest pay TV service, to allow users in the U.K. and Ireland to add Spotify directly to their cable bill. And we announced a partnership with DAZN, a fast-growing sports subscription streaming service in Japan.

We remain very confident in the growth ahead for Spotify, and you can expect to continue to see us manage for growth over profitability as we strive to create an ecosystem of discovery and benefits for millions of artists, billions of consumers and really the entire music industry.
And with that, let's open the floor for questions.

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Question and Answer

Paul Aaron Vogel
VP, Head of Finance/FP&A and Investor Relations

Great. Thanks, Daniel.

So our first question comes from Matt Thornton at SunTrust. "The commentary from the letter around accelerating investment in R&D and content in 2019 and the pressure it would cause on operating margin, is this pressure relative to the overperformance or the -- the overperformance in operating margin in 2H '18? Or is this a signal of the operating margin outlook has changed? Given you're still looking for positive free cash flow, we presume the operating margin pressure would not be that different versus 1H '18 run rate."

W. Barry McCarthy
Chief Financial Officer

Well, let me begin with an answer and then see if Daniel wants to supplement. So we saw increased operating margins in the current quarter more than we were anticipating because we weren't able to deploy investments in R&D as rapidly as we had hoped, which means that the pace of product innovation is slower than we had anticipated. And we meant to signal our intent to reverse course and accelerate the pace of investment, which will pressure operating margins more than they are currently being pressured by the rate of R&D investment, which is what we were trying to signal.

Paul Aaron Vogel
VP, Head of Finance/FP&A and Investor Relations

Great. Our next question comes from Ben Swinburne at Morgan Stanley.

"You recently revamped the Premium app (I'm a fan, some are not.) Can you talk about what in your view were the key changes, the strategic objective and if there has been any impact on engagement trends or churn?"

W. Barry McCarthy
Chief Financial Officer

Well, let's really take 2 steps back. We continue to make updates to our product and the user experience, both for our free tier and our Premium tier. Historically, what has happened is that those updates [are shipped by] -- every couple of weeks or so with new changes. What we continue to do is that we continue to look at ways where we can streamline the user experiences and make it more easy to use and more beneficial to users. And this is one of those changes that we had priorly shipped with very good results to our free users, and we're now consolidating the code base by also putting the same functionality to our Premium subscribers as well. But all in all, this is something that we had tested for months before, and we're seeing really good results.

Paul Aaron Vogel
VP, Head of Finance/FP&A and Investor Relations

Great. Our next question comes from Mark Kelley at Instinet. "Can you please talk about the hiring constraints you mentioned in the letter? Are there certain skill sets or particular geographies where this is particularly pronounced?"

W. Barry McCarthy
Chief Financial Officer

Well, I think overall, I mean, it's not a big surprise to know that in particular, when you look at engineering, machine learning, big-scale engineering, those are all skills that are widely demanded in the marketplace. And for us, it's not really about volume, it's about finding the right quality. And that's not something that's, I think, different to Spotify than really any other technology company in the world.

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And we're certainly looking at that, scaling up both in Europe and in U.S., and we'll continue to make improvements to how we hire and onboard and activate our workforce.

Paul Aaron Vogel
VP, Head of Finance/FP&A and Investor Relations

Our next question comes from Rich Greenfield at BTIG. "In your release, you stated advertising margins will benefit from the shift to self-serve, Programmatic. Over what time frame should we think about the shift to [track from a direct sales-focused model] you have today?"

W. Barry McCarthy
Chief Financial Officer

Many years is the short answer. Programmatic, those kind of automated solutions account for between 20% and 24% of revenues currently and are growing at almost twice the rate of direct. We recently launched a new automated feature. It's still quite early. It's growing extremely fast but off of a very small base, so one. Two, the market is moving aggressively towards programmatic solutions and faster in Europe than they are in the U.S., U.K. in particular. So we've made it a point of tactical emphasis from a product development standpoint, and it's important that we be successful in order to find the operating leverage that the business requires long term in order to generate attractive financial returns. So the market is heading there, and we are driving there as fast as we can.

Paul Aaron Vogel
VP, Head of Finance/FP&A and Investor Relations

Our next question comes from Justin Patterson at Raymond James. "Spotify for Artists beta features, please talk about music uploading and playlist submission. Are there any early learnings on how that's helping artists promote their music better? Additionally, could you explain how these features could benefit labels over time?"

Daniel Ek
Co-Founder, CEO & Chairman

Yes. I mean, again, we're very encouraged with the early results of this beta test in the U.S. And so far, we've now seen on the new music submission more than 67,000 artists that have submitted their works through that product and over 10,000 new artists that have been added to editorial playlists for the very first time, connecting their music with thousands of new fans. So we're very encouraged by the early results of this.

Paul Aaron Vogel
VP, Head of Finance/FP&A and Investor Relations

The next question comes from Heath Terry of Goldman Sachs. "With the reduction at the top end of your guidance and the increase in operating profit expectations, is there a reason that incremental profit isn't being used to drive subscriber growth? Does this say something about the incremental cost of subscriber additions? What are you seeing in the cost of acquiring customers?"

W. Barry McCarthy
Chief Financial Officer

Heath, Barry. There -- if you think back to our commentary during Investor Day, we made 2 important points. One is profit margin as a managed outcome is a byproduct of the pace we choose to invest in new features and functionality to drive growth. Second point is the 3 ways to invest in growth: one is marketing; two is geographic expansion, which we're pursuing aggressively; and three is investment in features and functionality that drive a better user experience, which drives more engagement, which drives more customer sat, which drives more word-of-mouth and organic growth, improves LTV and, importantly, improves the LTV-to-sat ratio. So I guess the third point I'd make is, for those who aren't familiar with the company, it's an engineering-driven org. Very product focused. And so the incremental investments are all about building features and functionality that make for a better user experience. And the point is to accelerate the growth of the business as a consequence, as a consequence of those

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product investments and as a consequence of the investments we're making in geographic expansion. So in terms of the commentary in the letter, because you could see the expanding -- the margins expanding faster than we had forecast, they would -- we were concerned that your expectations would get ahead of ours in terms of the future trend line. So we added some cautionary language. We've given you an incomplete picture of the future and not yet commented on 2019 and any benefits that might result from the investments we're making. So appreciate your patience. That will come on the next call.

Paul Aaron Vogel
VP, Head of Finance/FP&A and Investor Relations

Next question comes from Mark Mahaney at RBC.

"Can you talk about progress -- can you talk about the progress of Spotify's integration with Samsung devices? This has appeared to be leading to a meaningful adoption of Spotify and a ramp to Premium subs."

Daniel Ek
Co-Founder, CEO & Chairman

Well, again, it's a very recent announcement that we made with Samsung. It's a multiyear partnership, and it's something that we're actively rolling out as we speak, so I think it's too early to talk about the progress. That said, taking a step back, I think when you look at the landscape, we are an independent player in this, and one of our key strategies is to partner with as many players as we possibly can. And by being an independent player in all of this, that opens up for that strategy where we can be on every device, which we know that our customers really enjoy. Because the truth of the matter today is that there's a lot of customers out there that have devices of many of these ecosystems, whether it be Amazon, the Google or Apple ecosystems. And Spotify's goal is to be the topnotch user experience on all of those devices.

Paul Aaron Vogel
VP, Head of Finance/FP&A and Investor Relations

Next question comes from John Egbert at Stifel.

"How should we think about podcasts and how significantly you're investing in that format? What are some of the challenges you face in building out the contact for podcasts? And how do you approach negotiations with content owners? Is there an opportunity to strike fixed-cost deals or more advantageous variable licensing agreements from podcasts relative to music content?"

Daniel Ek
Co-Founder, CEO & Chairman

I think we're still in the very much early days of how the whole podcast marketplace will evolve. So right now, we're experimenting with different [deal types] , both fixed and variable. But I think over time, the way we are looking at this is that this is an integral component. When you look at the landscape overall and you think about something like radio, the truth is that the vast majority of the minutes that are being spent on radio today haven't yet moved online. So our opportunity really is gigantic when you look at that, and there aren't too many companies in the world that are focused on that opportunity of bringing audio online. And as part of that, obviously, we think non-music content has a very important place, and we're really investing in both improving the user experience around that but also improving monetization for creators in that space.

Paul Aaron Vogel
VP, Head of Finance/FP&A and Investor Relations

Next question comes from Ross Sandler of Barclays.

"What pace of ARPU decline do you expect to see in 2019 compared to the current decline [in] between? And how does it impact your international mix, Family plan and FX? And what are the biggest drivers?"

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W. Barry McCarthy
Chief Financial Officer

The biggest driver will be growth in Student and Family plan, bigger than geographic expansion and -- one. Two, the rate of decline will continue to decelerate, and I think that's what we're going to say about ARPU at the moment.

Paul Aaron Vogel
VP, Head of Finance/FP&A and Investor Relations

Next question comes from Michael Morris from Guggenheim. "Can you provide more detail on the Google Home partnership? How is it accounted for? And how does it impact margin? Would Spotify be in some way prioritized as a streaming service for users relative to Google and YouTube Music?"

Daniel Ek
Co-Founder, CEO & Chairman

Well, let's talk about the user experience first and foremost. Yes, it's a great partnership that we have with Google. On the devices that are shipped to customers, Spotify definitely is an integral part and preinstalled on that experience. So we're very excited about it, and I'll let Barry comment on the financial impact.

W. Barry McCarthy
Chief Financial Officer

We're -- actually appreciate the opportunity to comment. No comment.

Paul Aaron Vogel
VP, Head of Finance/FP&A and Investor Relations

Next question comes from Doug Anmuth at JPMorgan.

"Can you talk about the new Ad-Supported user interface and added functionality you rolled out in the Ad-Supported version [of it] earlier this year? Is it already having a positive impact on engagement and retention? And what are you seeing in terms of conversion rates to Premium subs?"

Daniel Ek
Co-Founder, CEO & Chairman

I think it's really too early yet to say. The early signs are encouraging, but there's still lots of noise in the data. The noise in the data mostly relates to the fact that this is being rolled out in many different geographies with slightly different user characteristics depending on where you are in the world. But so far, the early test result that we did prior to launching this seems consistent with the results that we're seeing out [in the wild].

Paul Aaron Vogel
VP, Head of Finance/FP&A and Investor Relations

Next question comes from Eric Sheridan at UBS.

"How should we think about the e-commerce opportunity, ticketing and merchandising, et cetera, on the platform in the coming years? What are some of the friction points at Spotify, their product partners, et cetera, that Spotify needs to solve to achieve their goals?"

Daniel Ek
Co-Founder, CEO & Chairman

Well, I think if we kind of up-level it and not just talk about the sort of specifics of merchandising and ticketing and instead talk about the fact that at Spotify, our goal is to connect artists and fans, and as part of that, for many, many artists, they have a huge audience on Spotify, and we have a better ability, we believe, over time to discern who are our real fans versus not. And as part of that, you could expect us to enable opportunities as part of our marketplace strategy to create more opportunities for creators to up-sell those super fans' various products.

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Paul Aaron Vogel
VP, Head of Finance/FP&A and Investor Relations

Our next question comes from Jessica Reif from Bank of America. "Can you talk about traction in some of your newer or larger markets like Japan? When do you expect to launch in India? And what are the main challenges in launching?"

Daniel Ek
Co-Founder, CEO & Chairman

Well, we don't break out performance on any specific market. But so far, the results in Japan has been encouraging, and we're -- we keep on investing in that market and believe over time that it will be a very significant market to us. As it relates to market launches, there's a number of different factors that we look at both as we value -- launch in new markets but then coupled with, of course, the industry. India specifically is a very fragmented marketplace with lots of different local labels, lots of different local publishers. Whenever we deal with licensing situations, it's very hard for us to predict the accurate timelines on the basis of multi, multi-partnerships. Just the sheer scale of number of partnerships makes it very hard to predict that. But there's nothing that we see that prevents us from launching in India.

Paul Aaron Vogel
VP, Head of Finance/FP&A and Investor Relations

The next question is from Nick Delfas at Redburn.

"Do you have any plans to charge artists for data or for promoting work on the paid service in any way?"

Daniel Ek
Co-Founder, CEO & Chairman

Our strategy in our marketplace outside of the business is the same as we have on the rest of the Spotify, which is it's a freemium business, meaning there will be a certain amount of products which artists and labels can get for free and there are others which we will charge money for. So that's an evolving strategy when it comes to our product portfolio. Data specifically is very unlikely to be one of those things that we'll charge for.

Paul Aaron Vogel
VP, Head of Finance/FP&A and Investor Relations

Next question from Lloyd Walmsley at Deutsche Bank.

"Do you expect the path for gross margin improvement towards your long-term targets to be fairly linear? Or should we expect it to be a bit volatile where some years' gains are more substantial than in other years? How should we think about the path in the near term?"

Daniel Ek
Co-Founder, CEO & Chairman

Well, I certainly would expect, and we've said this before, that the gross margin -- the vast majority of all the gross margin improvements will come from our marketplace strategy. So as we look at the marketplace strategy over time, it is not a function of what previously used to happen, which was 1 or 2 negotiated deals. But instead, more likely, lots and lots of deals that will happen [on individually as] artists and labels are purchasing more services.

W. Barry McCarthy
Chief Financial Officer

And I would add that if over time, let's say, podcast becomes a significant component of the business, that will have its own margin structure separate from music biz and the revenue stream different from the music biz. Today, we observe advertisements on subscription as well as Ad-Supported businesses, and we expect that to also be true on our platform as well. And that business will grow gradually over time, and the effects of that margin structure will grow gradually over time.

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Paul Aaron Vogel
VP, Head of Finance/FP&A and Investor Relations

Next question comes from Maria Ripps at Canaccord.

"With the Music Modernization Act signed into law last month, what are the incremental costs for Spotify? Is there an impact on your licensing fees? Could you give us some color on any incremental cost related to creating or maintaining your licensing database?"

W. Barry McCarthy
Chief Financial Officer

We mostly think there is good news for us in the passage of the act. It makes it easier for us to know who the rights holders are and how to pay them. So I think of it over the long term as a margin-enhancing opportunity, not an added cost.

Paul Aaron Vogel
VP, Head of Finance/FP&A and Investor Relations

Next question from Amy Yong at Macquarie.

"Can you help us through some of the major factors in your current label negotiations? And what's different this time around? Are the labels looking for more data?"

Daniel Ek
Co-Founder, CEO & Chairman

I can't comment on the specific of any ongoing negotiation with any party. But what I can say is that the primary focus for us is our strategy, which is around the 2-sided marketplace, and that's what we're working with all of our partners on.

Paul Aaron Vogel
VP, Head of Finance/FP&A and Investor Relations

Next question comes from Alan Gould at Loop Capital.

"How does the competitive landscape change with Sirius' plan to acquire Pandora and Apple potentially striking a deal with iHeartMedia?"

Daniel Ek
Co-Founder, CEO & Chairman

Again, if we take 2 steps backs and look at the landscape and the earlier commentary I made, we believe that the vast majority of minutes that are in radio today hasn't yet moved online. It's quite natural that we're not going to be the only player that wants to get those minutes as it comes online, but we feel really good about our strategy, which is ubiquity, personalization and superior user experience, and that's where we're continuing to invest in.

Paul Aaron Vogel
VP, Head of Finance/FP&A and Investor Relations

Next question from Thomas Singlehurst at Citi.

"There's been some speculation you might be the potential buyer of a stake in UMG now that the asset is formally up for sale. Can you talk about the pros and cons of potentially being an owner of recorded music business and all that might entail?"

Daniel Ek
Co-Founder, CEO & Chairman

I really can't make any comments on any deal negotiations at this point.

Paul Aaron Vogel

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VP, Head of Finance/FP&A and Investor Relations

Next question from Matt Harrigan at Buckingham.

"Given the higher-than-anticipated growth in smart speakers relative to expectations a year ago, and with about 30% of new smart speaker users taking a streaming service, did you feel that you did a more accurate job of incorporating this into your projections than outside analysts? Otherwise, you presumably would have been -- you would have beat subscriber numbers unless there were a shortfall in other areas. Or are smart speakers vastly less important than Student and Family plan?"

Daniel Ek
Co-Founder, CEO & Chairman

Well, from what we're seeing in our data, it's definitely a rising segment, and it's a very fast growing segment for us. But that said, as the scale goes, all of our other product lines are vastly larger.

Paul Aaron Vogel
VP, Head of Finance/FP&A and Investor Relations

Next question from Barton Crockett at B. Riley.

"Can you give us a sense of the size of the lease expense that will be eliminated from the transition to a new accounting standard next year and the size of lease obligations that will move on to the balance sheet?"

W. Barry McCarthy
Chief Financial Officer

The contingent liability footnote will give you a sense of the size of the obligations that will move onto the balance sheet. Not anticipating a reduction of expense, just gets carved up into different categories, depreciation and interest expense.

Paul Aaron Vogel
VP, Head of Finance/FP&A and Investor Relations

A follow-up question from Heath Terry at Goldman.

"There seems to be a disconnect between the way the press reports your ambitions for direct distribution relationships with artists and the way you talk about those plans. Can you clarify what you've done to date in direct distribution relationships or direct music content acquisition and what your strategy is for leveraging direct distribution or licensing relationships in music?"

Daniel Ek
Co-Founder, CEO & Chairman

Well, I think, again, to kind of take 2 steps back, I made some commentary around this on the last earnings call as well. But we don't view our strategy to be in opposition of any of our partners. In fact, we view the strategy really to be enhancing to our partners as well. So if you think about it from the standpoint of the investments that labels, publishers and everyone else makes in the ecosystem today, it's quite substantial in order to bring a new artist to the masses. So there's an enormous amount of marketing and promotion costs associated with that. One way you should view our marketplace strategy is that we want to make that a lot more efficient. And if we can bring down the cost for that, we should see a lot more artists being successful, and we should see a lot more labels be successful in the marketplace as well. But we don't view this as Spotify has to win, labels lose but instead as a win-win, and I think that's the fundamental difference. And then obviously, the point being also is I think everyone kind of looks at what has previously happened in the industry and kind of looks at the -- Netflix being the prime example here. But I think as I've said many times before also publicly, Netflix on the surface is a very similar business to ours. But underneath that surface, it's very, very different in the case of our marketplace strategy and their original content strategy.

Paul Aaron Vogel

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VP, Head of Finance/FP&A and Investor Relations

We have a follow-up question from Rich Greenfield at BTIG. "In the U.S., Spotify's podcast market share appears to be high single digits. However, overseas, you are the dominant player in many markets. How do you close the U.S. gap?"

Daniel Ek
Co-Founder, CEO & Chairman

Well, we're continuing to invest in our user experience and are continuously shipping new updates to our product. Among them, things that you should expect of a great podcast player like the ability to fast-forward, the ability to speed up the content and discovery, of course, being prime among them. And we believe that there's still an enormous amount of potential in improving the user experience. And as we do that, we have a great opportunity of growing our share in podcast.

Paul Aaron Vogel
VP, Head of Finance/FP&A and Investor Relations

And this will be our last question. We're coming up on half an hour. The question is from Greyson Clymer from Melvin Capital. "Can you provide some clarity on why Q4 subscriber growth was lower than top end versus prior expectations? Any clarity on gross net adds or churn trajectory would be helpful."

W. Barry McCarthy
Chief Financial Officer

Yes. We basically just reverted back to guidance we had previously. If we left that alone, there would have been no change. So my observation was The Street was starting to run to the high end of the range of our guidance, and our objective is to land at about the 70th percentile range of the guidance we give. So I wanted to avoid us being in a situation where we had exceeded our own performance expectations, but we had underperformed The Street's expectations in Q4.

Paul Aaron Vogel
VP, Head of Finance/FP&A and Investor Relations

Great. And with that, we will close the call. If anyone has any follow-up questions, please email the IR inbox at ir@spotify.com. And we look forward to speaking with you guys next quarter. Thanks, everyone.

Operator
This concludes today's conference call. You may now disconnect.

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Spotify Technology S.A. NYSE:SPOT

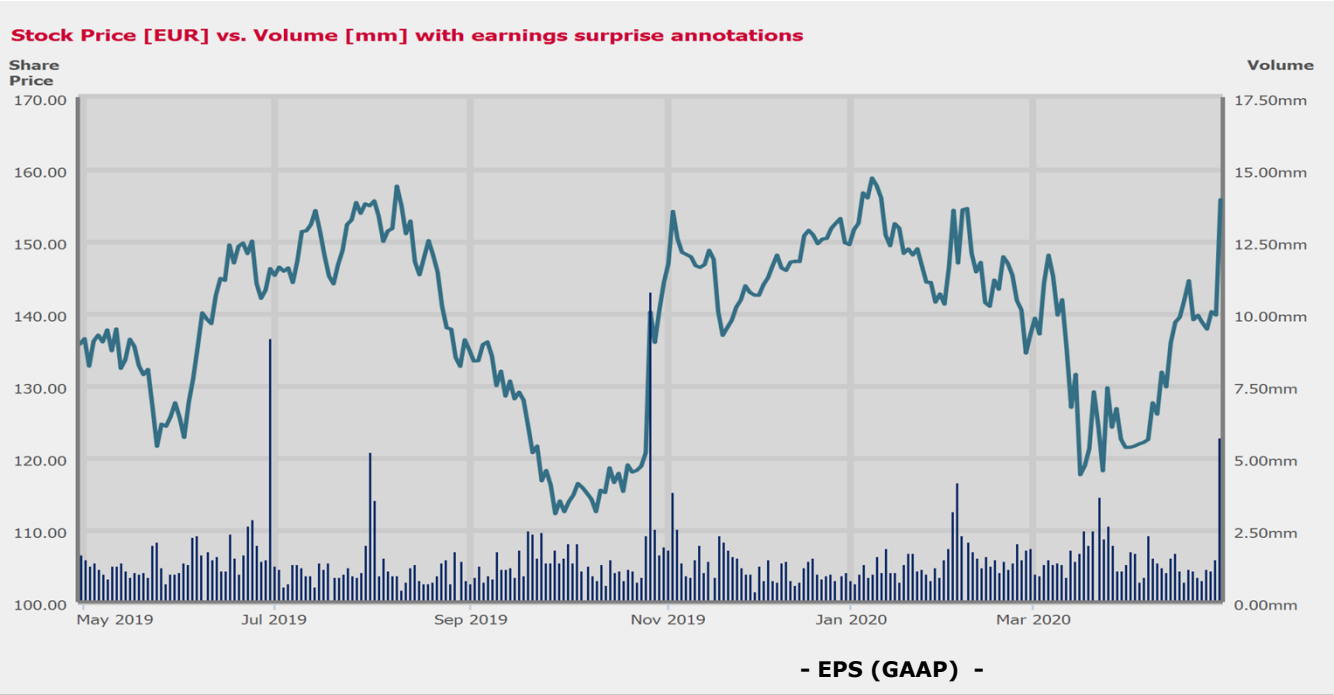
FQ1 2020 Earnings Call Transcripts

Wednesday, April 29, 2020 12:00 PM GMT

S&P Global Market Intelligence Estimates

	-FQ1 2020-			-FQ2 2020-	-FY 2020-	-FY 2021-
	CONSENSUS	ACTUAL	SURPRISE	CONSENSUS	CONSENSUS	CONSENSUS
EPS (GAAP)	(0.40)	0.00	NM	(0.25)	(1.18)	(0.35)
Revenue (mm)	1856.19	1848.00	▼(0.44 %)	2000.27	8088.06	9893.81

Currency: EUR
Consensus as of Apr-29-2020 12:55 PM GMT



- EPS (GAAP) -

	CONSENSUS	ACTUAL	SURPRISE
FQ2 2019	(0.34)	(0.42)	NM
FQ3 2019	(0.28)	0.36	NM
FQ4 2019	(0.19)	(1.14)	NM
FQ1 2020	(0.40)	0.00	NM

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Call Participants

EXECUTIVES

Daniel G. Ek
Founder, CEO & Chairman

Paul Aaron Vogel
Chief Financial Officer

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Presentation

Operator

Welcome to Spotify's First Quarter 2020 Financial Results Question-and-Answer session. A copy of the company's shareholder letter, issued premarket open today, is available on the Investor Relations website, investors.spotify.com. This call is being recorded, and an archived replay will be available on the IR site after the event concludes.

Please note we will conduct a question-and-answer session on the webcast. If you would like to ask a question, please visit the Spotify Investor Relations website to access the webcast link.

I will now turn the call over to Paul Vogel, Chief Financial Officer. You may now begin your conference.

Paul Aaron Vogel
Chief Financial Officer

Great. Thank you, and welcome to Spotify's First Quarter 2020 Earnings Conference Call. I hope everyone is staying safe during these unusual times. As is the case with just about everyone, our team will be hosting the call entirely remotely. Our CEO, Daniel Ek, is participating from Stockholm, and I'm at my home office in New Jersey.

Turning now to the call. We will start with opening comments from Daniel. And after the remarks, Daniel and I will be happy to answer your questions.

New for the quarter is that we will be taking questions exclusively through Slido. Questions can be submitted by going to slido.com, S-L-I-D-O.com, and using the code #SpotifyEarnings. Analysts can ask questions directly into Slido, and all participants can then vote on the questions they find the most relevant. We hope this keeps the call as efficient as prior quarters but increases the transparency around which questions get asked and in what order. If for some reason you don't have access to Slido, you can email Investor Relations at ir@spotify.com, and we will add your questions.

Before we begin, let me quickly cover the safe harbor. During this call, we will make forward-looking statements, including projections or estimates about the future performance of the company. These statements are based on current expectations and assumptions that are subject to risks and uncertainties. Actual results could materially differ because of factors discussed on today's call, in our letter to shareholders and in filings with the Securities and Exchange Commission.

During this call, we'll refer to certain non-IFRS financial measures. Reconciliations between our IFRS and non-IFRS financial measures can be found in our letter to shareholders, in the financial section of our Investor Relations page and also furnished today on Form 6-K.

And with that, I will turn it over to Daniel.

Daniel G. Ek
Founder, CEO & Chairman

All right. Hi, everyone, and thanks for joining us. Before jumping into our quarterly results, I want to acknowledge these extraordinary times that have profoundly impacted the world around us.

On behalf of the entire Spotify team, I want to express our deepest appreciation to the health care workers and first responders around the world who are keeping us safe. I also want to acknowledge all of the creators whose livelihoods have been altered, from the artists whose music continues to inspire us to the podcasters who keep us entertained and informed. We know that many creators with touring and live shows canceled, the pandemic has brought unthinkable levels of uncertainty into their lives.

And like every other company, we're operating with a new -- in a new reality. And it's, of course, premature to say when things will return to normal or what the normal will look like.

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But despite this uncertainty, Q1 was a strong quarter for Spotify. We continued to see impressive user growth, up 31% from last year. In fact, we saw faster growth in all 4 of our regions in the first quarter of 2020 compared to Q1 2019. And we met our guidance by nearly every measure, growing both our subscribers and MAUs.

The one exception was advertising revenue, which is a very small portion of our total revenue. Obviously, a loss in ad revenue is something that every media company is experiencing during this challenging time. So in sum, our overall business is less impacted than many others.

Podcast consumption grew by triple digits during the quarter compared to just a year ago. It was also our biggest quarter ever for organic podcast creation. And while many companies have had to adjust their output during this crisis, almost all of our original and exclusives have either maintained or increased their pace of new releases in response to audience demand. For example, our original podcast Science Vs and Fest & Flauschig have both doubled their weekly releases. And we also launched a new daily news podcast in Germany that has already become the second-largest show in the country and regularly ranks in the top 20 worldwide.

And we've been encouraged by the wave of creativity in new podcast creation this quarter. More than 70% of new podcasts on Spotify were created with Anchor and within our own ecosystem.

With 286 million monthly active users and 130 million subscribers, it's clear that audio and Spotify continue to play an important role in our users' lives. Our solid performance is the result of the audio-first strategy that we put in place just over a year ago. And we're up 31% in both MAU and subs year-over-year. And while we saw some minor impact from COVID-19 during the back half of the first quarter, MAU and subs remain in line with our forecast and held steady. In hard-hit markets like Italy and Spain, we saw more of a decline in daily active users and consumption. But over the last few weeks, we've seen listening start to rebound in a big way.

In this environment, we've had to suspend what we normally believe and think differently about our business. So for example, when we saw consumption starting to decline, we would have assumed that MAUs and paid subscribers would be negatively impacted. But that wasn't the case. In fact, both new and reactivated MAUs grew substantially even during lockdown periods in major markets. And we believe this is a testament to how engaging our platform and ecosystem are to our users.

And last year, as you all know, we outlined a vision to be the world's largest audio platform, and we've made significant progress. We now have more than 1 million podcasts on the platform, and we're the #1 audio service for podcasts in dozens of countries around the world and quickly gaining ground where we're not.

And I know many are wondering how we will continue to weather the storm. With so many unknowns, there are some questions we simply can't answer at this point. But I can say that I'm confident that we will continue to be in a position of strength when this is behind us. And that's because of our model, our scale and our superior user experience and, of course, our content pipeline. These are the fundamentals that have fueled our success and will continue to do so in the future.

When I look ahead both short and long term, I'm always thinking about what's Spotify's role within the larger ecosystem. And while most focus is on competition between streaming services, we continue to be focused on the billions of users that are listening to linear radio. The 20-year trend is that everything linear dies and on-demand wins. This is a trend that we suspect will be accelerated by the COVID pandemic. Time at home has moved people out of their cars, requiring them to shift their listening behaviors, and that's when they discover streaming. And Spotify is best positioned to capitalize on this. And because we offer personalized and on-demand experience, they end up staying.

So in my mind, our competition is actually those learned and long-held user behaviors. For us, it will always be about capturing the share of time listeners spend elsewhere and prove out that their time is far better spent with us. And we see this happening now on our platform as routines like commuting to work and going to the gym were disrupted and consumers started to form new habits. And of course, the ubiquity of our platform was a true advantage for Spotify.

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And because we're available on over 300 devices across 80 hardware brands, we're accessible to users even after listening behaviors have changed. For example, while listening in the cars declined, listening on gaming consoles is exploding. And we continue to see increased listening on home speakers and through TVs.

And on the music front, we were pleased to reach a long-term licensing deal with Warner Music that covers all of our existing markets and paves the way for us to enter new ones. We also delivered some of the year's most popular music releases to our fans. The Weeknd album, After Hours, had the biggest debut of the year so far, and Dua Lipa's album, Future Nostalgia, broke 3 Spotify records when it was released in late March. Fans are craving new music, and we expect to see more artists and labels move forward with their planned releases.

But it's not just about delivering relevant content. In the midst of an economic downturn, Spotify's free tier and freemium model are more valuable now than ever. It's important to remember that just over 60% of our paid subscribers come from our free tier. So growing the top of the funnel has always been a priority for us.

And with more and more people dealing with the financial stress, our free service provides a bridge to ensure users don't have to give up access to their favorite podcasts and music. In fact, over the last few weeks, we've seen an increase in the number of users coming to the platform for our free service. Many of these listeners are returning to Spotify from lapsed accounts, and some are joining from other streaming providers. As you know, the majority of our competitors do not have a free tier. And that, of course, makes Spotify a more appealing option in this environment. This should allow us to expand the pool of subscribers available to us as the economy recovers.

No one knows how long this will last or what the long-term implications will be, but we're very optimistic because of the many positive indicators we continue to see in our business and our strong cash position and our strong belief that we will continue to grow and gain share. There have been many unknowns and surprises throughout this crisis, but I'm really proud of our team and pleased by how well our business has responded.
I will now turn it over to Paul to open the call for questions.

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Question and Answer

Paul Aaron Vogel
Chief Financial Officer

Great. Thanks, Daniel. And again, if you have questions, please go to slido.com and #SpotifyEarnings, and we'll read the questions in the order they come in with respect to people voting up their preference for questions.

The first question comes from Mark Mahaney. How are you thinking about long-term gross margins for the sub and ad segments given the allocation of all podcast content costs to the ad segment?

So there's really no change in thinking there. We mentioned in the shareholder letter that we made an adjustment from an accounting perspective in terms of how we allocate costs for the podcasting business. Historically, we had allocated across both free and premium. Now all of the revenue associated with podcasts and all of the costs associated with podcasts will both be in our Ad-Supported business. It doesn't in any way change our view of podcasts or the importance of podcasts for the Premium business with respect to engagement, with respect to consumption and with respect to users. This is just a decision we made from an accounting perspective. So it has no impact on our consolidated gross margins. We manage the business for our consolidated gross margin and all of our expectations in terms of how that will change and improve over time. This has no impact on that whatsoever.

The next question, also from Mark. Could you elaborate on the gross margin improvements stemming from -- oops. Oh, there's our -- yes. It just got moved/stemming from the core royalty component due to product mix. Does this mean gross margins benefited from the shift towards podcasts?

No, what that refers to is product mix can impact the gross margin in a couple of ways. One is when Premium is slightly more than Ad as -- relative to our forecast. Because Premium has a higher gross margin, it can impact the gross margin positively that way. It also means that sometimes, the mix of products within Premium relative to our forecast with respect to standard and Family and Student, that can also impact the reported gross margin. So that's what that is in reference to.

Next question comes from Ben Swinburne. Can you provide some color on the 500 basis points drag to advertising gross margins called out in the letter as unusual? As advertising revenues slow, can you help us think about the incremental margins and whether minimum guarantees will increase the proportion of revenue decline that fall to gross profit?

Yes. So the 500 basis point unusual, there's -- oftentimes, the quarters can be lumpier. We had some onetime items in the quarter. They particularly hit the advertising gross margin. They're not going to recur. So we try and call these things out if possible. So that's what that is related to. It's basically some onetime issues around publishing that will not happen again.

And with respect to advertising and a decline on gross margins, so we have modeled this out. We don't think there's much of a risk right now to our forecasted advertising gross margin from an even further slowdown in advertising, which we are obviously not forecasting different from what we put in our guidance. But we don't see much of a risk to gross margins from a further slowdown in advertising with respect to any of the guarantees.

Next question comes from Jessica Reif Ehrlich. In regard to your new Warner Music agreement, can you discuss key changes, including how podcast revenue will be contemplated and length of the contract, et cetera?

Daniel G. Ek
Founder, CEO & Chairman

Yes. Obviously, we can't comment on the specifics. What I can say is to up-level the conversation, the focus for these renewals were really around establishing the Marketplace, establishing podcasts and the shift from music to audio. And obviously, we wouldn't have done the deal if we didn't -- weren't happy

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with the terms that we agreed on. And this is a multiyear deal that covers all existing markets and new markets as well. So we're very pleased with that.

Paul Aaron Vogel
Chief Financial Officer

Great. The next question comes from Ben Swinburne. Can you spend a minute on the lowered revenue outlook? You mentioned FX and ad sales are the biggest drivers with FX the largest at almost half. That suggests a lower outlook for advertising is a minority. What are the other factors all Premium are to?

Yes. So FX is the largest. We mentioned it's about half. So it's just under half of the movement. We have some pretty major currencies that have year-over-year down close to 20% relative to the euro. We've seen it improve a little bit since the forecast was finalized but not too much. And so that's still a pretty good number. Yes, ads is less than that. It's the next biggest component. It's a pretty sizable amount in terms of expectations for Q2. We expect it to get better throughout the year, but we don't have a significant ramp-up in ads beyond where we are in Q2.

And then there is a small component on the Premium side. That's related to a couple of different things. One is a little bit in terms of the timing of the promotional cadence, which can always impact a little bit. FX is impacting Premium as well. And then product mix is having a little bit of an impact. So again, in order, FX is the largest, almost half; advertising is next at a pretty sizable amount; and then the remainder is a little bit on the Premium side.

The next question comes from Doug Anmuth. You're maintaining your outlook for the 2-sided Marketplace. Can you talk more about early progress and how it's impacted in the current environment given fewer new album releases and tours? And what gives you confidence in maintaining your outlook there?

Daniel G. Ek
Founder, CEO & Chairman

Well, overall, just again, as you could see from the deal with Warner Music, we're very happy with all the relationships that we have with big and small label partners. And again, I think the notable call-out I'd have in this quarter was The Weeknd, who had a very, very strong release, #1 versus a lot of the records that used our Marketplace tools. So we continue to be very, very bullish about that. And I would suspect as COVID plays out, music streaming as a category will not be as impacted as many other categories. So that bodes well for labels.

And then two, specifically related to our Marketplace strategy, the direct ROI that we have on our Marketplace products is much better than other mediums that labels can market in. So we suspect that will have a positive impact.

Paul Aaron Vogel
Chief Financial Officer

Great. The next question comes from Rich Greenfield. With artists sheltered, you will likely be getting fresh, new music in the months ahead. How do you think about that impact? And how has the mix shift in listening frontline versus Catalog shifted in recent weeks?

Daniel G. Ek
Founder, CEO & Chairman

Yes. We've seen a bit of a shift in terms of consumer behavior. Obviously, we mentioned before car usage is down, in-home usage is up with more than 50% in the quarter. Again, trend has been much more instrumental music, much more classical music. Chill music has been up. That may skew towards Catalog a little bit more than frontline.

We've also seen many artists not releasing their releases. I would like to think with Dua Lipa and The Weeknd being such strong releases, that more artists will come back to releasing new songs as well.

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Overall on our service, clearly in Q1, we had a great growth. We expect that trend to keep happening. So it's not a huge impact that we haven't seen as many new releases in the first quarter. But I think you're probably right that we should see a lot more new music come up in Q2 and Q3, which will be great.

Paul Aaron Vogel
Chief Financial Officer

The next question comes from [Michael Klein]. Why not be more active in offering live virtual performances as a way to connect artists with their fans? This seems like an opportunity to leverage your data advantage to provide a service that artists would find extremely valuable right now. Any reasons why Spotify isn't more engaged here?

Daniel G. Ek
Founder, CEO & Chairman

Well, I think, again, the macro trend here isn't really live. I think the big macro trend is linear to on demand. And of course, live is a component of that, but it's still a relatively small component. So the investment that we're making is moving linear to on demand. And that's been the big trend for the past 20 years, that just everything linear moves to on demand.

And what we're spending a lot of time on is making sure that we are reflecting culture and the realities of consumption habits shifting. So as an example, we launched an at-home hub. And we are responding with more wellness content, health content, more news. And you've also seen some of our original podcasts increasing their output as pure reactions to this. And I would suspect that's going to be a bigger story of the overall consumption trend both going forward as well as in this moment.

Paul Aaron Vogel
Chief Financial Officer

Next question comes from Richard Kramer. The IFPI Global Music Report shows a decline in the growth rate of streaming revenue in 2019. With multiple offers, often bundled, competing for attention, how can you be sure we are not reaching saturation in key developed markets?

Daniel G. Ek
Founder, CEO & Chairman

Well, as I outlined in my opening remarks, we're actually seeing an increased growth rate relative to Q1 2019. So we've accelerated our rate of growth in all of our territories, including North America and Europe. So we're very happy about that. That does not indicate a sign of a slowdown. So we're very encouraged. And I would like to remind people, again if we just up-level here, the big opportunity for us over time is the billions of people that are currently listening to radio. If you compare it to streaming, we're in the hundreds of millions of consumers globally on streaming. So we think that there's plenty of growth left we had both in mature markets and as well developing markets like Asia.

Paul Aaron Vogel
Chief Financial Officer

Another question from Richard Kramer. In the 2008/ '09 global financial crisis, radio advertising was particularly badly hit. And that is a target market for your efforts in ads and podcasts. How does the current situation affect plans to monetize podcast content? Will ads growth permanently lag growth in subscriptions?

Daniel G. Ek
Founder, CEO & Chairman

I would just like to remind people again that ads is a very, very small portion of our business. It's about 10% of our overall revenues. So to the extent that we're impacted by ads, we're likely a lot less impacted than many other businesses. So long term, we believe this is a great opportunity for us as the trend line of moving from linear to on demand will likely be accelerated by the COVID-19 crisis. And we suspect that advertisers will shift from pure reach to more measurable ad formats, of which our ad formats are

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obviously a lot better compared to analog ad formats. So our suspicion both on the advertising front as well as the consumption front is that this will play into the tailwinds of what's already been happening of linear moving to on demand.

Paul Aaron Vogel
Chief Financial Officer

And then with respect to the podcast part of the question, we actually feel pretty good about podcasts. Podcasts is actually one of the stronger categories heading out of Q1 and into Q2. So there seems to still be a lot of demand for podcast advertising.

Next question comes from Ross Sandler of Barclays. The 2Q premium sub guidance doesn't look like it has much impact from cancellations, you noted in the letter. Can you talk about how the recession is impacting or not Premium cancellations and overall sub cadence?

Yes. So cancellations -- active cancellations are actually a pretty small part of overall churn. And so if you take a step back, churn in the quarter was right in line with our expectations, and we didn't see any impact from COVID in the churn numbers. It ticked up just a teeny bit sequentially. It was down about 70 basis points year-on-year. So the churn number overall in Q1 was really good and was in line with our expectations.

The biggest driver for us of churn is still payment failure. And so that's something we're working on to try and improve. But in general, we haven't really seen much. As I said cancellations, active cancellations are still pretty small, and that's number one. And number two is, while we did see some pickup towards the end of March, we've seen some pretty nice improvement in that in the beginning stages of April. So it's obviously factored into all of our numbers and guidance, but not much of an impact at this point.

Next question comes from Eric at UBS. Can you provide granularity on how the marketing subscriber acquisition funnel continues to evolve, especially the impacts you are seeing from the current environment? Have you adjusted your approach to either trials, promotional activity or trying to stimulate reactivations?

Daniel G. Ek
Founder, CEO & Chairman

Yes. Overall, just again, growth has been very, very strong, and the growth rate is accelerating compared to Q1 in 2019. We're very pleased with that. What's happening is obviously, there's been a bit of a platform shift mix where more and more consumption is happening in-home rather than in the car. I suspect that changes some of the tactics that we will pursue and just the channels that we're reaching consumers in on the marketing side. And then mid to long term, that ends up being an opportunity to remind users -- as we start easing up on some of the restrictions to promote people to come back to the car and all the amazing content that fits really well, daily commutes, et cetera, like the daily drive playlist that we have on our service, too.

So overall, we feel very, very good about the slate of content that we have and that there's content for pretty much every moment of a user's life. And our job from a marketing perspective is to remind them of that and remind them of all the amazing content that's being created every day on Spotify.

Paul Aaron Vogel
Chief Financial Officer

And before we move on, I've been told my audio is a little choppy, so I apologize for that. Hopefully, I can improve it. So if there's any questions that don't get answered, we will have a replay of the call afterwards if anything isn't clear.

So our next question is from [Shugad Manon]. Will Spotify Premium change in pricing in any way in the upcoming months or years?

Daniel G. Ek
Founder, CEO & Chairman

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No. Again, our primary strategy is growth, as we said before, rather than maximizing revenue, and that's due to the fact that we have -- we see this amazing opportunity of moving from radio to on-demand audio. And that's the trend line that we're trying to capture, and that's what you're seeing us go after. We have made small pricing experiments in some of our more mature markets. And obviously, due to inflation, you've seen us adjust pricing in some territories, too. The response from those have been very positive, but it's not something that we're focusing on in the short term. But it's definitely encouraging to see that we have that opportunity for when the economy improves, and we feel that's the right trade-off to make.

Paul Aaron Vogel
Chief Financial Officer

The next question comes from Matt Thornton at SunTrust. Does 2020 guidance contemplate any meaningful new market launches, i.e., South Korea and/or Russia?

Yes. So we've talked about both Russia and South Korea as being markets we want to be in, and nothing has changed there. All of the guidance and forecasts we give you always include our expectations of if and when we will launch in new markets. So while we have nothing to announce at this point, you should know those are definitely 2 markets that we are focused on. And all the guidance that we've provided includes the timing of any new market launches, whether it be South Korea, Russia or anything else.

The next question comes from Doug Anmuth. Can you talk more about podcasts? One, how that's driving higher DAU, MAU; two, your early progress with exclusives; and three, your appetite for more acquisitions in the current environment?

Daniel G. Ek
Founder, CEO & Chairman

Yes. I mean, overall, just to up-level, it was about a year ago since we announced our shift from the music to audio-first strategy. At that place, we were about 0.25 million or so in our podcast catalog. We've grown that by 3x to over 1 million podcasts now. We were a small player in podcast, but we're now more than #1 in more than a dozen markets and growing very fast in the markets where we're not #1. So we're feeling pretty good about that.

In terms of user behaviors, what we are seeing is that podcast users are more engaged overall. They do listen to more music as well. And in terms of some of our Originals & Exclusives, we are seeing some pretty good progress. We're still learning how to best market those shows, whether it all-out exclusives, whether it's windowing. So we're experimenting a bit with that. We're experimenting with how to market these shows, too. I suspect that will be down to different audiences and consumption behaviors of those audiences. You should expect that to play out in 2020 of more experimentation, but we're definitely doubling down based on the early signs that we're seeing.

And I think in -- as related to more acquisitions, we keep on doing more deals and podcasts based on what we're seeing. So if the macro environment means that there will more advantageous deals to be done, we will for sure look into that.

Paul Aaron Vogel
Chief Financial Officer

Great. The next question is from Heath Terry at Goldman Sachs. Do you have any way to quantify what impact an increase in shared listening may have had on reported DAUs or engagement? Do you believe that an increase in shared listening impacted churn positively or negatively?

Daniel G. Ek
Founder, CEO & Chairman

We don't have any reliable way of the impact in shared listening. What we can say is obviously, in the home, there's more shared listening than it is on mobile devices. So it may have played a part in DAU and engagement. That said, the overall churn was obviously in line with earlier expectations. So we haven't seen a big impact on churn numbers.

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Paul Aaron Vogel
Chief Financial Officer

Yes. And I would just add, we mentioned this, that the DAU-to-MAU ratio in Q1 of 2020 was above where it was in Q1 of 2019. So we feel really good about the trends in the DAU-to-MAU ratio.

Next question comes from Jessica. In large music markets that have remained largely physical, such as Japan and Germany, how has shelter at home impacted penetration? Also, can you provide color on India and some of your other more recent market entries?

Daniel G. Ek
Founder, CEO & Chairman

Yes. We don't break out specific markets. But what I can say is 2 observations. One is obviously that our user growth rate year-over-year is increasing, and that is true in established markets as well as expanding geographies. And then what I believe we will see is just the trend line of linear and physical will move to on demand, and that trend line will be accelerated due to this pandemic as more and more people are learning new habits and new experiences. And I think they will find that streaming is just a much more beneficial and much better user experience. So we suspect that teaches new audiences about streaming and that we'll likely have an uptick in long-term retention as well of those users.

And then my only remarks on India specifically is obviously, we've finalized Warner deal, and we have added some notable other licensing deals. So we've improved Catalog greatly in India. And I can certainly see from social sentiment at least that that's having a very positive impact on users' love for Spotify in India.

Paul Aaron Vogel
Chief Financial Officer

Next question comes from Michael Morris at Guggenheim. Can you expand on gross margin outperformance comments? What specific customer product mix behavior drove the difference? Also, what drove lower streaming delivery costs? And is that sustainable?

Yes. As I mentioned before, there's a number of things that can impact gross margin in any 1 quarter: geographic mix, product mix. And so when you have some quarters where, as I said, Premium is more than advertising, Premium has higher gross margins, so that can help. And then the mix of products within Premium can also impact the gross margin in terms of relative to our expectations. So that would be one.

And then on the lower streaming delivery, we've sort of been on this path for the last couple of quarters where we've gotten some efficiencies in streaming delivery. I think the long-term trend is we'll continue to see streaming delivery improve. But I think in the near term, we've seen a lot of those benefits over the last couple of quarters. So it's really been just getting efficiencies on the delivery in general, but I think that sort of improvement will moderate over the next couple of quarters.

The next question comes from Mark Mahaney. What is happening with Premium sub churn trends in the June quarter so far?

Yes. We're not going to give any really updates on Q2 other than to say what I already said, which was churn was in line with expectations in Q1, and we feel really good about how we ended Q1 in terms of the impact of COVID on cancellations or anything related to that. So if you look at our guidance and our expectations for subscribers, both for Q2 and for the full year, we haven't really changed any of those expectations. So hopefully, that should be indicative of how we are seeing the current environment.

The next question comes from Eric at UBS. Has your view changed in terms of video content as an element of your broader engagement strategy and to support artists looking to reach fans and promote their content in the current environment?

Daniel G. Ek
Founder, CEO & Chairman

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Not really. We continue to see video be important in terms of a complement. But I really do want to focus on just up-leveling the conversation. We believe video is something that a lot of players around in the marketplace is focused on. Again, audio has about the same amount of engagement that video has, yet there's no one on a global scale that's focused on audio. We are. We think that's a massive opportunity to go after, and that's what we're focusing on. So to the extent the video will play a complementary role to audio, then we'll probably pursue it over time. But we really, really focus on audio because that's the big, big tailwind that we see happening over the next 20 years, is going from linear to on demand.

Paul Aaron Vogel
Chief Financial Officer

Next question is from Rich Greenfield at LightShed. When you say you reached a long-term agreement with Warner Music, should we take that to mean these are not the typical 2-year deals and that this is now in place for at least 5 years?

Daniel G. Ek
Founder, CEO & Chairman

Again, can't comment on any specific terms in the deals. But typically, these are multiyears. They're not always 2 years. Some of them are 3, et cetera, as well.

Paul Aaron Vogel
Chief Financial Officer

Next question comes from Hamilton Faber at Atlantic Equities. Apple Music now has 6-month free trials in new markets. What's the risk that SPOT needs to see another extension to free trial periods?

Daniel G. Ek
Founder, CEO & Chairman

Again, we'll obviously monitor that and see. I think a key difference between us and competitive services is our freemium model, though. So we've always had free and paid as the option. And I've said this before, but one of our key success elements is we typically bring people in on the free service. They stay, get engaged, learn user behaviors and then over time feel like there's enormous value here and then turn into paying customers. That's the macro strategy that we're investing behind.

One should also note that many of the new markets that our competitors are launching in are emerging markets. And there, obviously, you're seeing other impactors for growth like credit card penetration, payment methods, et cetera. So you may see longer trial periods being needed in those markets for those reasons. That's not to say that, that will happen globally.

Paul Aaron Vogel
Chief Financial Officer

Our next question comes from Brian Russo at Crédit Suisse. Can you discuss how -- or what you have seen so far this year gives you confidence in your full year MAU and subscriber outlook, particularly in light of the pandemic and related recession?

Daniel G. Ek
Founder, CEO & Chairman

Maybe you want to start, Paul, and I can fill in.

Paul Aaron Vogel
Chief Financial Officer

Yes. I mean, I would say, look, for us, we fully acknowledge there's a tremendous amount more -- I'm trying in English. There's a lot more uncertainty in the current market than there was in the past. That being said, when we look at all of the metrics in terms of how we exited the quarter, when we look at churn rates, when we look at retention rates, all those things have continued to trend in the right direction. We actually saw some acceleration towards the end of Q1 with respect to users, people coming

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to our free product, people who had lapsed and had come back to Spotify. So we feel good about the current trends.

We acknowledge, like everybody else, we're in uncertain times. We are monitoring the situation as closely as anybody to see if we see any change in the data or any of the metrics. But what we always try and do is give you guys guidance based on the actual forecasts that we have internally, and the current forecasts we have internally has been pretty consistent with where we started the year.

Next question comes from John Egbert at Stifel. Are you observing any changes in listening behavior during this period that you think could persist beyond the COVID-19 lockdown? Has the mix of new versus Catalog music consumption shifted at all recently? Are you seeing greater consumption of personalized algorithmically generated playlists than before?

Daniel G. Ek
Founder, CEO & Chairman

I think it's hard to say what behaviors that will stick post the COVID-19 lockdown. Obviously, if I'd have to guess, I would say that many people are discovering new devices to consume content on like smart TV, smart speakers, Xbox, PlayStation. As we mentioned, those have been growing at more than 50% just this quarter. So enormous change.

I would expect, as you learn that behavior, you're going to listen. And then as you're coming back to the car, you will obviously listen to the car, too. So we may see a greater engagement than in the past, which would be great if that was the case, but it's too early to say.

And then new versus Catalog music, we definitely see more consumption on Catalog music and other types of content. Part of that, though, has been due to the fact that we haven't seen the same amount of music releases in this quarter. So I would suspect that, that will shift as more new releases will come into play Q2 and onwards.

And then in terms of personalized, that's just been the trend line overall. As we're getting better and better at personalization, we're serving better and better content, and more and more of our users are choosing that. There's nothing specific to this quarter. It's just been an overall trend line, and we're seeing more and more people engaging with our recommendations.

Paul Aaron Vogel
Chief Financial Officer

Next question comes from Maria Ripps at Canaccord. Can you talk about the adoption of the 2-sided marketplace in the current environment? Did the pace change? Do you see adoption of sponsor recommendations accelerating as artists are competing for share of recorded music in the absence of live events?

Daniel G. Ek
Founder, CEO & Chairman

Not really seen a big change in trend line. As I mentioned, if anything, there's been fewer new releases overall. But we're early on in our Marketplace strategy. So we saw very, very strong release with The Weeknd. That's the sort of highlight of the quarter. But I feel pretty good about the Marketplace team and what they're doing and the trend line for the coming year as well, certainly when you think about just how much better the ROI is of the Marketplace products compared to some of the tools that labels and artists have available to them today to market their releases.

Paul Aaron Vogel
Chief Financial Officer

And I would just add on the Marketplace side. I wouldn't expect us to update the performance of the Marketplace every quarter. But we did in this quarter reiterate that the guidance we gave at the start of the year has been reiterated for the Marketplace. We expect that we might get some questions based on

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the current environment, so we have reiterated the guidance we started with at the beginning of the year for Marketplace.

Next question is from [Emilio]. Given the crisis, do you expect some Premium users to change to the Spotify ad version? When services like Apple Music don't offer free ad version, do you expect to capture new users who unsubscribe from the paid service?

Daniel G. Ek
Founder, CEO & Chairman

Well, so far, we haven't seen any meaningful increase in churn, but we have seen an increase in lapsed users coming back to the service. One can speculate and guess that those may have been with competing services but, in light of the economic crisis, are now coming back due to our freemium offering. But we don't have any concrete evidence that that's the case. So that's more me speculating on that. But we're pretty encouraged, as mentioned, just in increasing overall growth rate and over 130 million in subs, and we are reiterating guidance for Q2 and onwards.

Paul Aaron Vogel
Chief Financial Officer

We're going to answer a couple more questions. Next question comes from Richard Kramer. Oops, let's move there. At what point do you need to look at the value of podcast investments' potential impairment given reduced ad spend outlook. Are Premium subs going to be impacted? I'm lost. And so are your subs going to be hearing ads in SPOT podcast?

So I'll start with that one. At this point, we don't see any reason. We obviously look at these things every quarter. As I mentioned, coming out of Q1, one of the strong areas of growth for advertising is podcasting, and we see a lot of demand continuing on the podcasting ad front, so we feel really good about that. And yes, currently, Premium users do hear ads in Spotify podcasts.

Next question comes from Justin Patterson. Given artists are increasingly reaching users on social channels, Instagram, YouTube, TikTok, how is Spotify thinking of providing artists off-platform marketing capabilities? It seems like the current iteration of the 2-sided marketplace is primarily marketing on Spotify.

Daniel G. Ek
Founder, CEO & Chairman

Yes. We're experimenting with various tools based on what our customers are telling us, i.e., labels and artist teams. And you may see off-platform tools, too. That said, obviously, on-platform is where we have a chance of doing a really, really highly effective advertising. So you can think about it in a way where people are in line doing their actual listening. That's probably one of the most effective methods that we can have in reaching users and connecting fans to new -- new fans to new artists. And that's a meaningful trend for us to invest in, and that's unique to us and something that we think will both strengthen user experience and artist experience on the platform, too.

Paul Aaron Vogel
Chief Financial Officer

Great. We have time for about 2 or 3 more questions. Next one is from Ben Swinburne. Ex FX ARPU decline accelerated from 4Q '19. Was this decline greater than you had expected? The letter calls out Trial & Campaigns, but presumably, that was in your expectations. What is the outlook for ex FX ARPU for 2Q '20?

The ARPU decline was pretty much in line with expectations. It might have been a touch worse, but in general pretty much in line. As we said, the Premium business was slightly ahead on the revenue side. So we feel pretty good about that in terms of where the expectations were. And I would say the ex FX ARPU for 2Q '20 should be pretty much in line with Q1 trends.

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The next question is from [Daniel Jones]. After the launch of direct artist payments, are there long-term plans to develop that channel as an ongoing revenue stream?

Daniel G. Ek
Founder, CEO & Chairman

I think that's reserving to the artist pick tool that we released in light of the music relief fund, -- next to the music relief fund announcement that we did, too. And what that essentially does is it enables users to tip artists or for artists to promote causes that are near and dear to them, either themselves or a charitable organization like MusiCares in the U.S. and other local organizations around the world.

Look, it's too early to judge. We were pretty much just reacting based on the new realities. But we've been overwhelmed with the results. So put it in perspective, just in the last few days, we've seen over 50,000 artists sign up to promote a cause. So we're very encouraged with that. And so the team is responding to that and responding to the feedback we're getting from artists and consumers alike.

Paul Aaron Vogel
Chief Financial Officer

Next question comes from Heath Terry at Goldman Sachs. Can you elaborate on the line in the release, "stem from the core royalty component due to product mix?"

I think we've talked about this a couple of times, but I think this refers to the gross margin, and this is about just how gross margin can be impacted by the mix of Premium and ads, and then the product mix within Premium. So I think that was answered earlier.

And then we'll take one last question from Lloyd Walmsley. How much of the 2-sided marketplace advertising revenue is through arm's-length cash payments versus labels using credits given to them as part of the broader content deals? Are you seeing a majority of the revenue on the cash side?

Yes. This is separate from that. We don't really get into specifics. As we said, a lot of these end up being accounted for as a benefit to gross profit and not an actual boost to revenue. But these are separate from the credits.

And with that, I will turn it back over to Daniel for some closing comments.

Daniel G. Ek
Founder, CEO & Chairman

Thank you, Paul. Well, in closing, we're really pleased with our quarter. And despite all the uncertainty in the world, we feel very good that we will continue to execute and respond quickly to the environment around us. We also believe that we will likely see new opportunities due to the economic environment and that Spotify will ultimately come out of this as an even stronger company. Thank you again for joining us today.

Paul Aaron Vogel
Chief Financial Officer

Great. Thanks, everybody. As we said, the replay will be on the website shortly. And please give us any feedback on if you prefer Slido. We think it went pretty well. But if you have any feedback, we definitely appreciate it. So thanks again, everyone, and stay safe.

Operator
This concludes today's conference call. You may now disconnect.

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Spotify Technology S.A. NYSE:SPOT

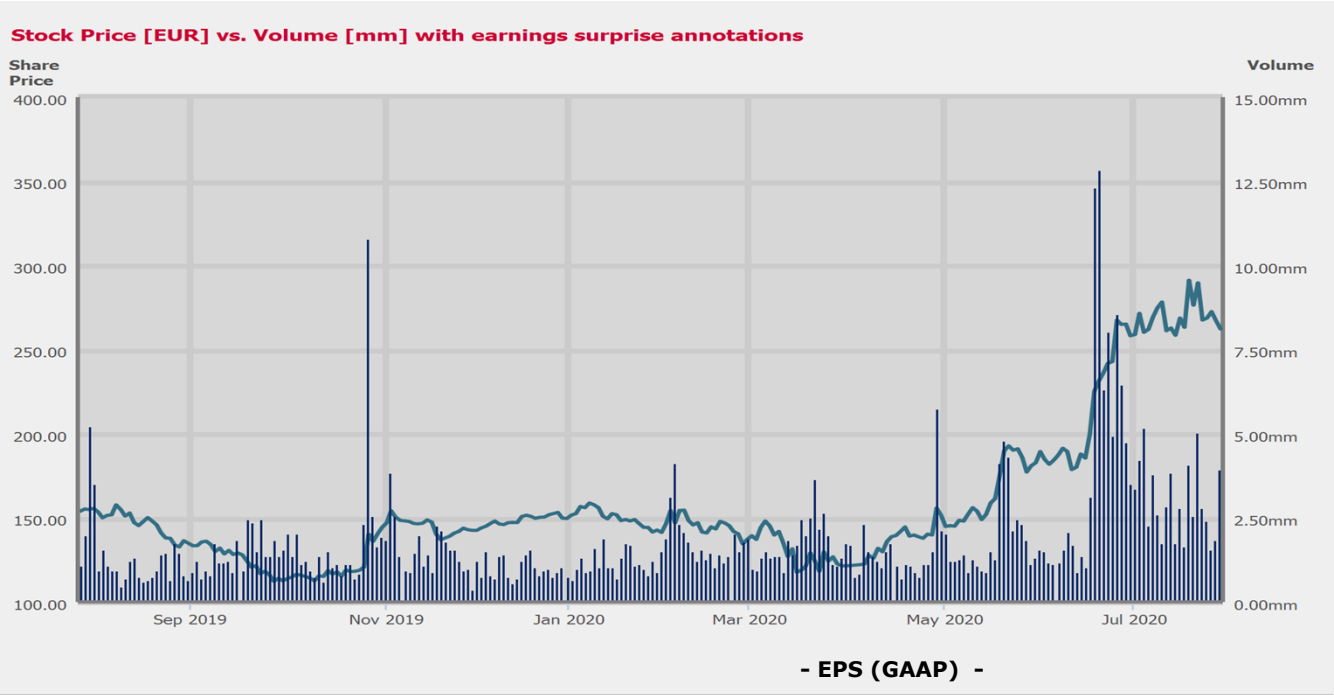
FQ2 2020 Earnings Call Transcripts

Wednesday, July 29, 2020 12:00 PM GMT

S&P Global Market Intelligence Estimates

	-FQ2 2020-			-FQ3 2020-	-FY 2020-	-FY 2021-
	CONSENSUS	ACTUAL	SURPRISE	CONSENSUS	CONSENSUS	CONSENSUS
EPS (GAAP)	(0.47)	(1.91)	NM	(0.10)	(1.13)	(0.28)
Revenue (mm)	1929.58	1889.00	▼(2.10 %)	2009.86	7969.19	9688.49

Currency: EUR
Consensus as of Jul-29-2020 10:34 AM GMT



- EPS (GAAP) -

	CONSENSUS	ACTUAL	SURPRISE
FQ3 2019	(0.28)	0.36	NM
FQ4 2019	(0.19)	(1.14)	NM
FQ1 2020	(0.40)	0.00	NM
FQ2 2020	(0.47)	(1.91)	NM

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Paul Aaron Vogel
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Presentation

Operator

Ladies and gentlemen, thank you for standing by and welcome to the Spotify Q2 2020 Earnings Call [Operator Instructions]

Thank you. I would now like to hand the conference over to your speaker for today, Paul Vogel, Chief Financial Officer. Please go ahead.

Paul Aaron Vogel
Chief Financial Officer

Great. Thank you, and welcome to Spotify's Second Quarter 2020 Earnings Conference Call. I hope everyone is continuing to stay safe. As is the case with just about everyone, our team again will be hosting this call entirely remotely. Our CEO, Daniel Ek, is participating from Stockholm, and I am at my home office in New Jersey.

This morning, I'm pleased to introduce our new Head of Investor Relations, Bryan Goldberg, who just recently joined our team. I'm sure many of you recognize his name from his time at Bank of America. Also joining the IR team is Lauren Katzen, who was previously on our licensing and finance team within FP&A. We're excited to have both of them on board.

Mike Urciuoli, who has been both part of our IR team and FP&A teams over the past few years, is transitioning into an expanded role within FP&A, but will be on hand to answer questions post this quarter and for the next few weeks.

And with that, I'll turn it over to Bryan.

Bryan Goldberg;Head of Investor Relations

Thanks, Paul. Turning now to the call. We'll start with opening comments from Daniel. After the remarks, Daniel and Paul will be happy to answer your questions.

Like last quarter, we'll be taking questions exclusively through slido. Questions can be submitted by going to slido.com, s-l-i-d-o.com and using the code #spotifyearnings. Analysts can ask questions directly into slido, and all participants can then vote on the questions they find the most relevant. If for some reason, you don't have access to slido, you can email investor relations at ir@spotify.com, and we'll add in your question.

Before we begin, let me quickly cover the safe harbor. During the call, we will be making certain forward-looking statements, including projections or estimates about the future performance of the company. These statements are based upon current expectations and assumptions that are subject to risks and uncertainties. Actual results could materially differ because of factors discussed on today's call, in our letter to shareholders and in filings with the Securities and Exchange Commission.

During this call, we'll also refer to certain non-IFRS financial measures. Reconciliations between our IFRS and non-IFRS financial measures can be found in our letter to shareholders, in the financial section of our Investor Relations page and also furnished today on Form 6-K.

And with that, I will turn it over to Daniel.

Daniel G. Ek
Founder, CEO & Chairman

All right. Hey, everyone, and thank you so much for joining us. Like all of you, Spotify continues to navigate issues related to COVID-19 and racial injustice, both of which are reshaping our industry and society in significant ways.

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Given the role we play in culture, we believe Spotify has a responsibility to use our platform to help build a more equitable future. For us, that means focusing on what's core to our business, amplifying the music and perspectives of Black creators and taking every opportunity to connect them with current and future fans. We're also taking a hard look at what we can do to build a more equitable workplace, and we have committed to increasing representation of Black employees at all levels within Spotify. When we do this right, it's good for employees, good for creators and good for shareholders.

Now turning to the quarter. We're pleased with our results, which met or exceeded our guidance by almost every metric. After making adjustments to help us weather the pandemic in Q1, consumption returned to normal levels this quarter. Monthly active users increased to 299 million, and subscribers grew to 138 million, both exceeding our expectations. Advertising revenue, which took a significant hit in Q1, improved notably throughout the quarter, and we feel good about our momentum as we enter Q3.

We also continue to invest in our audio-first strategy, signing exclusive deals with some of the world's most well-known creators and most powerful voices. Earlier today, we launched the first episode of the Michelle Obama podcast, and it features a conversation with a very special guest, President Barrack Obama.

Our podcast catalog now has over 1.5 million shows, 50% of which launched in 2020. And while it's been gratifying to see so much enthusiasm for these announcements throughout the quarter, it's important to remember that with many of our newer shows, we're still early in the progress. In some cases, like DC Comics, we need to produce the content; and in others, like Joe Rogan, it has yet to launch on our platform. There's still work to do and much more to come.

On the music front, we entered a new multiyear global license agreement with Universal Music Group that reflects our shared commitment in growing the industry and supporting artists at all stages of their careers. Universal Music Group will leverage Spotify's Marketplace tools for both frontline and catalog artists to connect them with fans, grow their audiences and better monetize their fan base. And we'll also work together to develop new products and tools that drive discovery and engagement at a scale that has never before existed.

Spotify has now surpassed 60 million tracks globally, giving artists even more opportunities to connect with their biggest fans. And just last week, Taylor Swift's surprise release of her new album, Folklore, broke the #1 first-day record for a female artist album in Spotify's history. She also became the most streamed artist on Spotify on any day this year, with nearly 98 million streams on July 24 alone.

Finally, I would like to address our business overall. Investors often ask me what our secret sauce is, expecting that there's some sort of silver bullet to our growth. The reality is that at a platform of our scale, it's rarely about one thing. Instead, it's about setting up a culture of experimentation and being willing to double down on opportunities if we believe they have the potential to enhance the user experience and change the slope of our growth curve. And I want to share 2 recent examples that I think exemplifies these points.

Over the last 2 years, we have tripled the number of experiments from a few hundred to thousands of A/B tests. Some of these experiments yield nothing more than a few key learnings, while others have shown great promise. In one of our recent podcast experiments, we increased listening among the test group by 33%. And that's just one example of many. And when we see results like this, you should expect us to invest even more. And we know that no one experiment is going to materially impact us even in the next year. It's the thousands of little things that we're doing which will gradually add up over time.

The second example I want to point is new market launches. Just this month, we launched in Russia and 12 other European countries. And our first week in Russia was huge, even bigger than our first week in India. So if we do this right, we have the opportunity to reach 250 million more listeners in these markets over the long term. And we're now operating in nearly every country across Europe, but there's still a lot of pent-up demand for Spotify in markets around the world, which is why we have plans for further expansion globally.

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And what these 2 recent examples underscore is that staying focused on the long-term growth whilst managing for speed of iteration near term is what will drive future growth. And using that lens, and with the examples I gave, I think it is apparent that we still have many more improvements left to make. And that's also why we keep investing.

And with that, I'll turn it back to Bryan.

Bryan Goldberg;Head of Investor Relations
Thanks, Daniel. Again, if you have any questions, please go to slido.com, #spotifyearnings. We'll read the questions in the order they come in with respect to how people vote up their preference for questions.

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Question and Answer

Bryan Goldberg;Head of Investor Relations

And the first question today is going to come from Eric Sheridan.

Can you frame the impacts you expect long-term in your business from greater podcast content consumption: Lower churn, greater gross ad share of streamed audio, increased long-term ad-supported gross margins?

Daniel G. Ek
Founder, CEO & Chairman

Well, it's really about taking a step back. And I think what we're seeing here is the beginning of a flywheel. So as we talked about before, Spotify is now going after all of audio. And that's obviously a significantly larger market than just the music industry in and on itself.

And so what we're seeing is that by every piece of content that we're adding on the service that we're successful in serving to a consumer, we're creating more engagement. That engagement, in turn, leads to obviously lower churn. But more importantly, now that we have almost 300 million monthly active users on the platform, these users are also, when they find great shows, sharing that on social media and other forms to other consumers as well, driving this virtuous cycle where more and more people are learning about what's going on, on Spotify, and more and more creators want to be on Spotify, creating this virtuous flywheel.

So with the expansion of podcast, we're definitely seeing more of that, and it's happening at a faster clip than what we've seen before, and we're very encouraged by it.

Paul Aaron Vogel
Chief Financial Officer

Yes. And then from a numbers perspective, I would say everything you mentioned is what we're looking at to value each piece of content. So it is the combination of what is it doing for our user growth? What is it doing to improve retention and lower churn? And then also how can we grow advertising on top of it? And so when we look at pieces of content and we look at how much we need to add and where we're spending, it's really about the LTV of the overall spend on content and how it impacts holistically the entire business, from user growth to subscriber growth to advertising growth.

Bryan Goldberg;Head of Investor Relations

Okay. Great. Next question from Rich Greenfield.

What percentage of ad revenue is now directly tied to podcasting? Trying to understand what ad-supported music revenues were down year-over-year relative to 21% overall ad decline in the quarter as podcasting growth and acquisition first time benefits presumably benefited the 21% decline.

Paul Aaron Vogel
Chief Financial Officer

Yes. So I would say a couple of things on this. One is podcasting is still reasonably small relative to the overall amount of advertising. That being said, it did outperform in the quarter, and we felt it was one of the stronger areas of growth, which is great.

Hopefully, everyone has seen the deal we struck with Omnicom at the last couple of weeks, which was a $20 million deal to invest in podcast advertising moving forward, which we're really excited about.

And the other thing about podcasting is it's having a couple of effects. One is overall podcast growth is there, and so we finished this quarter at 21% of MAU, which is up from 19%. Podcast consumption is still up over 100%. And we're seeing advertisers really wanting to invest in podcasting as a media.

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The other thing that's benefiting us is we're starting to sell more media deals across all of our products. And so we're seeing nice growth from deals that incorporate both music advertising and podcasting advertising in the deals.

And so in general, podcast was strong in the quarter. It's still reasonably small, but growing very nicely.

Bryan Goldberg;Head of Investor Relations

Okay. Next question from Eric Sheridan.

Can you update investors on your views on acquiring/licensing podcasting content? What will drive either approach? Any update on the level of investments in podcasts? And how critical is putting podcast content exclusively on your own platform against your long-term goals for the business model?

Daniel G. Ek
Founder, CEO & Chairman

Yes. I mean, we are really pursuing sort of all strategies in tandem. It's really all about creating the best overall user experience, as I talked about before with this virtuous cycle. Now that said, exclusivity is a key component of that strategy. We want to create more and more original programming that only exists on Spotify. And I think this quarter, you started seeing some of those announcements come in, in a big way.

And obviously, that's something we're pursuing with creators, but it's important that we are an open platform. And we're seeing more and more content. As I mentioned in my opening statement, over 1.5 million shows are now available on Spotify, and about 50% of them was created in 2020. It's impossible, even if we wanted to, to have all of that content exclusively on our platform. So it's going to be a mix of all of those things going forward.

Bryan Goldberg;Head of Investor Relations

Okay. Next question from Richard Kramer.

With the UMG deal, has SPOT secured any firm commercial commitment to pay for 2-sided Marketplace services?

Daniel G. Ek
Founder, CEO & Chairman

So as we talked about before, we're very, very excited about Marketplace and the momentum it's having. We're seeing lots and lots of big artists come in. We saw John Legend, we saw The 1975, Lady Gaga, among many others, adopt the tools this quarter. So we're very excited about it.

And with the Universal Music Group announcement, they're really now leaning in because of that really early excitement in the Marketplace and want to adopt more tools and want to go deeper because they're seeing the potential impact that it can have on their business.

Bryan Goldberg;Head of Investor Relations

Next question from Eric Sheridan.

Can you give us a sense of how the ad market evolved over the recent quarter in terms of ad budgets, pricing and how you see those dynamics evolving against the current macro backdrop? Can you provide color on any variability by industry verticals, geographies or type of ad budget?

Paul Aaron Vogel
Chief Financial Officer

Yes. So the advertising market, it definitely started -- the quarter started out slow. We mentioned coming out of Q1, that the last 3 weeks of Q1 were pretty weak and saw some big declines, and that continued into April and May. We were actually running behind on the ads business for April and May, probably down

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about 25% on those 2 months. And then we really had a nice pickup in June. June was only down about 10% on the advertising side.

In terms of geographies, I'm not going to get into specifics, but we have a much higher percentage of our revenue on the ad side comes from North America than on the Premium side. So how North America goes tends to be how our overall business goes.

And then in terms of product, the Direct business was weak in the quarter and actually underperformed our expectations. And we were very strong on our ad studio, which is our self-service tool, which outperformed. And as I mentioned above, podcasting outperformed as well.

Bryan Goldberg;Head of Investor Relations

Okay. Next question from Michael Morris.

Is the level of podcast engagement similar across both Premium and ad-supported users? Are you seeing a difference in churn for podcast users? If so, can you quantify the relative impact?

Paul Aaron Vogel
Chief Financial Officer

So at a high level, I would say the good news is that podcast engagement in general overall is increasing. So as I mentioned, we're now 21% of our MAU engaged with podcasts, which is up from 19%. And consumption was up over 100% in the quarter. So we continue to see it going up in general.

Premium does have higher engagement than the ad-supported business, but both of them have been moving up nicely, and both of them have been improving.

And with respect to any impacts on churn, we don't break that out individually.

Bryan Goldberg;Head of Investor Relations

Okay. Next question from Doug Anmuth.

Do you expect podcast to have a bigger financial impact through advertising dollars or more through incremental premium subscribers to the platform?

Daniel G. Ek
Founder, CEO & Chairman

I really say it depends on what the time horizon is that you're looking at. Obviously, our subscription business is a much larger business. So even if we improve that by a small percentage base, that's likely going to be a larger impact than even if we improved our advertising business with a strong double-digit growth as well.

So I think in the short term, any improvement we can make on improving retention is going to be material to the subscription business, and that's how you should look at it. But long term, when I look at the landscape, what excites me is that we're going after all of audio. And all of audio is a multibillion-user opportunity. And it's a marketplace that, only in its existing form today, is north of $50 billion in advertising revenue. And it's the combination of subscription and advertising long term that I think is the future of media businesses. And Spotify has really, since its inception, played in both of these businesses.

So I'm very excited about long term, both being a principal player in advertising as well as in subscription. And so over the long term, it will become a bigger part of our business.

Paul Aaron Vogel
Chief Financial Officer

And I would just add, which I think I mentioned earlier. When we look at some of the larger content deals we've done, we are measuring or forecasting both sides of the equation in terms of how we value that content moving forward.

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Bryan Goldberg;Head of Investor Relations

Okay. Another question here from Doug.

Can you talk about how the recent Universal deal may treat the 2-sided marketplace differently than other recently signed label deals? Or are they essentially the same?

Daniel G. Ek
Founder, CEO & Chairman

Well, I think the big difference here is really Universal's willingness to experiment and go all-in on Marketplace, and that's what I think should be the bigger takeaway here for all investors as well. So what that means in essence is Universal has seen the early success and is very excited by it. And they want to make sure that it can get behind and experiment a lot more with the paid tools of the Marketplace, but also the organic tools that allows artists to create more fans, engage with those fans and monetize those fans better. And so overall, we want to work with all labels, but we are very, very encouraged to see Universal go all-in on the tools and services that we're building.

Bryan Goldberg;Head of Investor Relations

Okay. Next question from Mark Mahaney.

Where can ad-supported gross margins go near term? And long term, can these gross margins match those of Premium?

Paul Aaron Vogel
Chief Financial Officer

Yes. So in the very long term, we definitely think ad gross margins can reach the Premium gross margins. We haven't given a time frame on that, but we believe that's where we're headed.

In the near term, there's a couple of factors at play here. One, obviously, is the weaker overall ad environment, which is impacting gross margins. And particularly on the ad side, there are some minimum that we pay in certain markets where the advertising hasn't reached -- hasn't quite reached critical mass. And so as we get to a tipping point in some of those markets on the music side, the gross margin will improve.

And then additionally, just a reminder, we now account for all of the costs of podcasting in our ad-supported business. So the entire brunt of the investment we're making on the content side is hitting the ad-supported line. And so as we continue to invest in content, the ad business will feel it more. We do expect ads gross margins to improve in Q3 and then be even better in Q4.

Bryan Goldberg;Head of Investor Relations

Our next question is from Steven Cahall.

What do you expect will be the impact to MAUs, Premium subs and gross profit when The Joe Rogan Experience comes exclusive to Spotify in September?

Daniel G. Ek
Founder, CEO & Chairman

I think it's too early to talk about what the impact will be. Yet we obviously know it's a big show, and we are encouraged by the reception we've seen in the marketplace. So I do think a lot of his fans are very excited about the announcement. But it's going to take time. And we have to learn how to market and merchandise the Joe Rogan show, both to its existing fans as well as to all of the other 300 million or so listeners on Spotify as well. Because this, as we have talked about before, even with the announcement of Joe Rogan, this was the #1 searched for show on Spotify that we're now including. So I think it's going to be a very, very positive one.

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But again, I think the best way to think about this is that Spotify is not about one single show, it is really about the drumbeat now of new exclusive content, original programming and the 1.5 million podcasts that exist on the platform that's growing at a very, very rapid pace. So there's something for everyone. That's the message I want you to take away.

Bryan Goldberg;Head of Investor Relations

The next question is from Rich Greenfield.

Howard Stern's multiyear agreement with Sirius expires at the end of this calendar year. If you were Howard Stern, why would you want to be on Spotify versus Sirius?

Daniel G. Ek
Founder, CEO & Chairman

I can't really speak to Howard Stern specifically. What I can say, though, as you've seen in the quarter, there are more and more great creators around the world that are turning to Spotify. And I think part of that reason is because this is an interactive medium. This allows them to better connect with their audience, seeing the data, seeing how they're engaging with the content, seeing the feedback directly.

It is an international platform, too, not just the domestic. So while we are very large in North America, we are equally large in Europe and LatAm and Asia as well. So this is a global audio platform unlike anything else.

And now thirdly, the size of this platform is just huge compared to many of these platforms that may operate in just one market. So I think the combination of that interactivity, the flexibility that allows you and the global nature and scale of this platform is what excites a lot of creators to be on our platform.

Bryan Goldberg;Head of Investor Relations

Next question is from Richard Kramer.

How will you get the local data to target podcast ads you intend to insert? Will each host have to record a large number of ads which will be inserted depending on local interests, customer segment, et cetera?

Daniel G. Ek
Founder, CEO & Chairman

I'll take this, and maybe, Paul, you can chime in as well. So just to level-set with everyone, there's a number of different tools that we have in our podcasting advertising sets. And the host-read ads is one of them, and what we call SAI is something very different.

So specifically, to address the question, on our host-read ads, the host itself decides among a number of different brands that it wants to work with and then reads those ads in. And then Spotify serves that base to the audience that best suits the advertiser's intent. And then with SAI, it's more dynamically created ads that are set in. Some of them are recorded by the advertisers themselves, and some of them are host-read ads as well that are baked into the mix.

But this is a very, very nascent marketplace that exists today. So generally speaking, when it comes to podcast, a lot of this data that we're now talking about that's become standard on the Internet has not existed. So what I think the general trend has been is that when you have -- add Internet-level data and accessibility of those tools, the performance of those ads goes up. And when the performance of those ads goes up, the value goes up as well, both to the creator and to the platform as well. So we're very, very excited about bringing Internet-level advertising technology to the podcast medium. And this is something that I'm very, very encouraged by and that I think you should look out for, for the next coming quarters and years.

Bryan Goldberg;Head of Investor Relations

Next question is from Michael [Cling].

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Can you elaborate on how you expect the addition of video will impact the growth of Spotify's advertising business? Is it realistic for investors to expect a positive impact in the next 12 months?

Daniel G. Ek
Founder, CEO & Chairman

Yes. So I think the way you should look at video overall is it's yet another capability that we're adding for creators to connect to fans as well. And it's just in this quarter as well with discovery of podcast, where the podcast charts are coming in, more and more tools and data that we're adding to podcasters as well. This is another innovation as well to allow podcasters to creatively express themselves in a different way. So you should expect us to iterate on that.

Now that said, we are an audio-first platform, and so we expect for the foreseeable future the majority of consumption to be audio. Meaning that consumers that watch video will go in and out of the video experience and then being able to put that experience in their pocket and continue. Then when they hear something interesting, pull it back up and then watch the show again. So this is -- you should not look at this as some of the other platforms like YouTube and Snap, where it's predominantly a lean-in experience. Video is an added capability. It is priced very attractively for advertisers, but the share of video on Spotify is low right now. And it will be growing, but I don't think you should expect it to be another YouTube.

Bryan Goldberg;Head of Investor Relations

Next question from Matt Thornton.

On podcast, can you give some color on, one, what percent of hours are currently monetizable and how is that trending? Two, how current ad loads and CPM stack up versus industry average? And three, the third-party ad network opportunity.

Paul Aaron Vogel
Chief Financial Officer

Yes. So we don't really disclose ad loads particularly, but I'd say they're pretty close to industry averages. I would say, in general, what's really interesting, and I think Daniel touched on this is, is as you get better at targeting, when you have tools like SAI, you're able to actually increase your monetization, increase the relevancy of the ads and increase overall monetization without actually having to increase the overall ad load.

So we feel really optimistic that our technology and the innovation we're bringing to technology will allow for greater monetization over time and doing it in a way where you don't necessarily have to increase ad loads. In some cases, you might even be able to lower ad loads if you're able to target the ads more specifically to users with a higher ROI.

And in terms of the third-party ad network opportunity, it's definitely something potentially, longer-term, we could look into. We know that when we launched SAI, which is only on our owned and operated properties, the number of inbound calls we got from folks who had interest in using that technology as well was pretty high. So nothing to announce at this point in time, but obviously something we would potentially consider.

Daniel G. Ek
Founder, CEO & Chairman

One thing I would add also, I think part of this question was how -- where we are in just the rollout of this. So we're very, very early days. So the expectation I want everyone to have is the vast majority of advertising you hear on Spotify today is the burnt-in ads that the podcasters themselves have served. Spotify does not participate in that. But by building out tools like SAI and host-read ads, which are a lot more efficient and better for the advertisers, better for the creator as well, we expect that to mean a lot more adoption in the coming quarters as well. So just want to make everyone aware of that.

Bryan Goldberg;Head of Investor Relations

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Next question is from Rich Greenfield.

You mentioned a change in the cadence and promotional offers impacting churn. How should we think about the timing and length of major promos going forward?

Paul Aaron Vogel
Chief Financial Officer

Yes. So I think if you take a step back, historically, we've run promotional offerings seasonally. So one in the summer and one at the holiday period of time every year, which we've done for the last couple of years. Last year, we did even more experimentation with offers at different times and different types of offers. And so for instance, in 4Q of last year, we had an always-on promotion that started earlier in 4Q than normal. And in Q1 this year, we actually extended the normal holiday campaign into Q1, which persisted for -- through the early parts of February.

The seasonal cadence there is that we had more folks in Q2 this year coming off of seasonal campaigns than we normally do. So as a result, you normally expect some uptick in churn when you have people rolling off of those promotional offerings. I would say the -- while the quarter-on-quarter -- year-on-year churn was down, but quarter-on-quarter was up modestly, but that was totally expected and in line with our expectations.

And moving forward, you can expect us to continue to experiment. I would say the seasonal campaigns are likely to continue to happen with the same regularity. And then we'll experiment with other offerings and other promotions, other regional plans over time.

Bryan Goldberg;Head of Investor Relations

Next question from Lloyd Walmsley.

Can you tell us how much premium gross margins benefited in 2Q relative to a year ago from the extended use of the free trial this year versus last year's $0.99 for 3 months? What about the total impact to first half premium gross margins?

Paul Aaron Vogel
Chief Financial Officer

Yes. So in Q2, that impact was small. It was probably about 15, 20 basis points. And it had a bigger impact in Q1, around 80 basis points. So together, it's probably about 40 basis points or so for the first half of the year.

Bryan Goldberg;Head of Investor Relations

Next question from Rich Greenfield.

The core Apple podcast experience has evolved in years, but there are a wide array of dedicated podcast apps, such as Pocket Casts, Overcast, Castro, et cetera. How would you rank the experience of Spotify as a podcast player versus the dedicated apps? Can you become the best place for podcasts?

Daniel G. Ek
Founder, CEO & Chairman

Well, that's certainly our ambition. Again, what I've said prior is that we want to be the de facto audio platform of the world. And there's a lot more innovation that we have started doing about 2 years ago and that we keep shipping quarter-by-quarter. I think my personal favorite at the moment, which I'm super excited about, is the ability to do group listening remotely. So just as an example, this is something we announced yesterday, where our consumers can now share what they're currently listening to and people can tune in to that experience, so whether that be podcast or whether that be music.

But because we have this large music platform and because we have this audio platform, all of the benefits that we are developing for the music ecosystem are coming to the podcast ecosystem as well. And that's true of advertising as well as the discovery tools and other usability benefits, too. And I think

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over time, that's going to compound into an amazing user experience that we believe will be attractive to most, if not all, consumers around the world who are interested in listening to audio content.

Bryan Goldberg;Head of Investor Relations

Next question comes from Ben Swinburne.

Why do you believe COVID-19 pressures seem to persist and be more substantial in Latin America and rest of world relative to North America? And separately, do you think there's been a reduction in artist releases due to COVID? And if that's impacted engagement.

Daniel G. Ek
Founder, CEO & Chairman

A very good question. And generally, I would say, we see some of the seasonality on a market-by-market basis as well, not related to COVID, but just due to seasonality, due to holidays, that kind of thing. My best thesis at the moment, we have talked about this last quarter, that there's been a pull-forward effect of smart devices and smart home devices, so smart speakers, smart TV screens, et cetera, exploding in consumption. This has been a very, very nice tailwind overall. My best thesis at the moment is we don't have the same extent of smart devices in LatAm as we do in, say, more mature markets like North America and Europe, and that can have some of the impact that we're seeing as well on that. But that's my own thesis and not something that I can sort of just confirm on a broader basis.

Bryan Goldberg;Head of Investor Relations

Next question from Sumant Wahi.

Can you talk about the margin profile of the podcast business and the shape of the ROI? What are your expectations there?

Paul Aaron Vogel
Chief Financial Officer

Yes. So I think as we've talked about in the short term, short to intermediate term, we're still in investment mode. And we're going to continue to invest in the business. And you'll see the content drag on gross margins, and it will continue for some period of time as advertising grows.

Over the long term, we think it should be margin-accretive. How long that takes, we'll have to see. And I think we've said on a couple of occasions that if you continue to see the goodness in the business from podcasting, whether it's on user growth or subscriber growth, if we see it impacting the retention numbers and churn numbers in a positive way, we're going to continue to invest in that business. And so I think you'll see it holistically in our LTV and our LTV to SAC and how we think about that. But it could be a drag for a period of time before it starts to be a benefit, which we think will be significant over time.

Daniel G. Ek
Founder, CEO & Chairman

The one added thing I would probably add to what Paul said just overall, is that the best measure that we use internally for judging the business success is the LTV to SAC metric. And baked into the LTV metric, of course, is the retention of our basis. It is about getting exclusive content, and that exclusive content may mean that we are the only place to have that show, which enables pricing power as well.

So long term, that's the flywheel, that's the metric that we're focusing on. So we are investing in that business to build a differentiated business compared to all other businesses that exist here, and we think this will be the audio platform on the Internet, and that's a large opportunity and a very valuable opportunity, both with subscription and advertising.

Bryan Goldberg;Head of Investor Relations

Okay. Next question comes from Brian Russo.

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On your recent renewal with UMG, can you confirm this partner has agreed to treat podcasting on your freemium tier in the same manner that the other majors have with regard to a carve-out of listening time?

Paul Aaron Vogel
Chief Financial Officer

Well, I think what we have said is that from a podcasting perspective, the advertising related to podcasting will be 100% Spotify's and not shared. Beyond that, I'm not sure we've commented much on any other terms of the deals.

Bryan Goldberg;Head of Investor Relations

Okay. Next question from Richard Kramer.

What ROI do you think you could provide advertisers or labels for their promoted songs? How do you balance that with the legal limitations on payola and consumer expectations around recommendations?

Daniel G. Ek
Founder, CEO & Chairman

Yes. So we've been investing in Marketplace for quite some time. And in particular, we have had Marquee being out there. We are always, of course, monitoring consumer satisfaction and making sure that, that is high. That's the gauging factor that we're looking into everything.

But I do want to talk a little bit about the onuses behind this. I talked about the economics of a label before, but the single-largest cost of a label today, unlike before. It used to be that distribution was the single-largest cost of a label. Today, the single-largest cost of label is promotion and marketing. And what's exciting to me is that Spotify is the platform where most people are consuming and discovering content.

So if labels instead reinvest some of the portion of the marketing spend that they use to promote market artists on this platform natively, the result should be a lot better. You should see better results for consumers because they're getting more of what they actually like. You should see better results for artists and labels as well because they're able to grow their fans a lot better at more efficiently priced -- prices than, say, other advertising marketplaces or billboards that they've traditionally spent them on. And of course, for Spotify, it means a higher gross margin business as well.

So I really do look at this as a win-win-win, where it's better for the consumer, better for artists and labels and better for Spotify.

Bryan Goldberg;Head of Investor Relations

Okay. Next question comes from Steven Cahall.

When users combine into a Premium Duo account or a Family Plan, how is this factored into gross adds, net adds and churn?

Paul Aaron Vogel
Chief Financial Officer

Well, if you're already a subscriber and you just move to a new plan, you continue to be a subscriber, so there's no change there. And for gross adds, it's just -- it will be new users to the platform. So -- and with respect to churn, if you're moving from one plan to the other, but you're staying a subscriber, it shouldn't impact churn either. So yes, that's pretty much it.

Bryan Goldberg;Head of Investor Relations

Okay. We've got time for about 2 or 3 more questions. We'll go to Mark Mahaney.

Can you talk through the P&L impact so far from the 2-sided Marketplace and comment on its potential future financial impact?

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Paul Aaron Vogel
Chief Financial Officer

Yes. So I think we mentioned last year that it was about EUR 30 million benefit to gross profit. And then to start the year, we said that we expect the Marketplace to be up about 50% in the contribution to gross profit in 2020. And so there's no change at all to our expectations for the year in terms of how Marketplace is rolling out.

And sorry -- sorry, just to add. I know there's some questions on -- a good majority of that is contra-cost. So it's a benefit to gross margin without revenue. There is some revenue attached to the benefits of Marketplace, but it's reasonably small. The majority of the benefit we get is directly related to benefits we see directly in the gross margin.

Bryan Goldberg;Head of Investor Relations

And the next question comes from [Deepak] at Barclays.

With Joe Rogan coming on the platform exclusively in September and other podcasts potentially launching, how are you thinking about the potential benefit to Premium subs and MAUs in your third and fourth quarter guidance?

Paul Aaron Vogel
Chief Financial Officer

Yes. So it's a great question. And to piggyback on what Daniel said earlier, we've been reasonably conservative with the expectations for how much it benefits our platform. And so when you look at the guidance range, again, if you go back to the start of the year, we had mentioned a certain level of conservatism within our guidance, particularly for MAU, with respect to how much potential benefit we're going to see this year from pods and podcast launches and new content launches.

And so we definitely have seen continued growth in MAU. As I mentioned earlier, it was up this year more than it was up at the same time first half of 2019. And we've seen really nice growth there. But I would say the exact impact modeled in for the benefits of any of the content is still fairly minor. And so there is some conservatism baked into the MAU side with respect to the benefit of podcasts and new content.

Daniel G. Ek
Founder, CEO & Chairman

One addition I would just make there, too, is that the interesting factor isn't just about one show. It is when you're adding more and more things that only exist on Spotify, as we talked about before. So to the extent that we're looking at this as a big event, that's fantastic and that's great, and I'm sure it will have a big impact with both existing fans and new fans alike. But for me, this is really about adding more and more and more reasons for you to come to Spotify and be on the Spotify ecosystem as well.

And with that, I'm very excited about both the launches we've already had, but also the coming announcements in the coming quarters about all the other shows that we're making, that there should be something for every single person on the Spotify platform, and more and more of those shows will only exist on Spotify.

Bryan Goldberg;Head of Investor Relations

Okay. We got a question from Richard Kramer.

What precisely are you hoping to gain from the Apple antitrust case? What's your ideal outcome? And given that 70%-plus of U.S. subs are on iOS, how would it affect earnings?

Daniel G. Ek
Founder, CEO & Chairman

Paul, maybe you can talk about the specific impact for us. But just overall, the most important thing for us is to create platform principles where it's a more fair and equitable marketplace for us and other start-ups

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to engage and compete for consumers' attention, time and wallets. We ultimately think this is important not just for Spotify, but actually for the broader ecosystem as well. The best service is the one that should be -- win, not the one who had an existing platform that we're able to lock in consumers with as well. So that's certainly what we're hoping for as an outcome.

And maybe you, Paul, have something more specific on the impact for us.

Paul Aaron Vogel
Chief Financial Officer

Yes, nothing other than I think what we said in the past, which is we've grown really, really nicely and really well in the face of some, let's say, competitive dynamics that aren't ideal for us in terms of how we can market and talk to our consumers within the iOS ecosystem. So we feel really good about the growth we've had in spite of the fact that there are limitations that Apple puts on us and our ability to market, promote and convert our users into subscribers.

Bryan Goldberg;Head of Investor Relations

All right. And our last question will come from Ben Swinburne.

Product mix shift largely due to discounted and Family Plans continues to benefit users but weigh on ARPU and your year-over-year Premium revenue growth, which is slowing. Why should shareholders view this trend positively for the long-term earnings power of the business and not a sign of a maturing market?

Paul Aaron Vogel
Chief Financial Officer

I guess, I'll start and I'll see if Daniel has any question -- comments on this one. But I think for us, we've really been in a mode of growing market share, and it's all been about growing users and growing subscribers. And as we've talked about on a number of calls, we really focus on LTV to SAC and making sure that we're adding subscribers that we believe will be profitable, and profitable over the long term.

And so we continue to add. We've had a lot of success with our Family Plan and Student plan. And the affinity plans have helped us grow our overall subscribers and gain share, but we have seen ARPU decline. It was down 9% in the quarter, as I mentioned, 7% excluding FX. And there was another 1% impact of the revenue reversal, so down about 6%. I think over long term, our expectation is that ARPU will moderate in terms of declines and start to move higher. But for now, it's really been about market share gains over near-term profitability.

Daniel G. Ek
Founder, CEO & Chairman

Yes, and I think the only thing I would add to that is we keep looking at all of those changes in product mix from the lens of just the overall LTV. So there are many variables that go into LTV. One of them, of course, is retention and overall acquisition as well, when we monitor for that. And as Paul said, we have been mostly focused for growth, and I think rightly so. Because with the scale of the platform, that enables more and more and more of the benefits that we've been talking about as well. It's easier for us to market to existing consumers. When we're doing something like podcast, those consumers are, in turn, marketing to other new consumers to join the platform, too. So we're seeing this virtuous cycle of more and more people joining the platform on the basis of that.

Long term, though, just to elevate this discussion, we are very, very bullish still, and we're still in the early days on this journey of going after the audio platform of the world. And that is still measured in billions of consumers. We're still relatively early in that cycle. And just from a TAM perspective, even today, the radio industry is north of $50 billion. Most of that is advertising. Advertising's today, a small portion of the Spotify's business, but it will be a much bigger one overall. So that's an added potential benefit.

Then on the subscriber side, as Japan and the U.S. have shown before, there are existing audio products that are monetized at much higher ARPUs than Spotify in those marketplaces. And I think the Spotify

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product and content mix is getting better by the day. And over time, that gives us confidence that we should have ability to be a significant player in subscription and have pricing power as well going forward.

So I think the combination of those 2. Growth will still be the priority given that we're talking about in the billions. But I am very, very bullish on our ability, both on advertising and subscription, long term.

Bryan Goldberg;Head of Investor Relations

Okay. That concludes our question-and-answer session. Daniel, do you have any final closing remarks?

Daniel G. Ek
Founder, CEO & Chairman

Yes, sure. So in closing, we had a very strong quarter. And as I mentioned just before, I've really never been more bullish about where we are today and our future opportunity. And there are still billions of people who have yet to discover our on-demand music streaming or listen to a podcast, and of course many more we have yet to reach in markets around the world where Spotify doesn't yet exist.

And speaking of podcast, the last thing I wanted to do is just encourage you to check out Spotify's new For The Record podcast that's coming out this Friday. Paul and I will be sharing additional thoughts about the quarter, and we will be discussing my philosophy on growth, innovation and the importance of risk taking. So feel free to check that out. Shameless Plug.

But thanks again for joining us this morning. This is an exciting time to be focused on audio, and we're only just getting started.

Bryan Goldberg;Head of Investor Relations

Thanks again, everyone, for joining. The replay of the call will be available on our website, and new for the first time, also on the Spotify app under Spotify earnings call replays. Thanks again.

Operator
This concludes the Spotify Q2 2020 Earnings Call. We thank you for your participation. You may now disconnect.

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Spotify Technology S.A. NYSE:SPOT

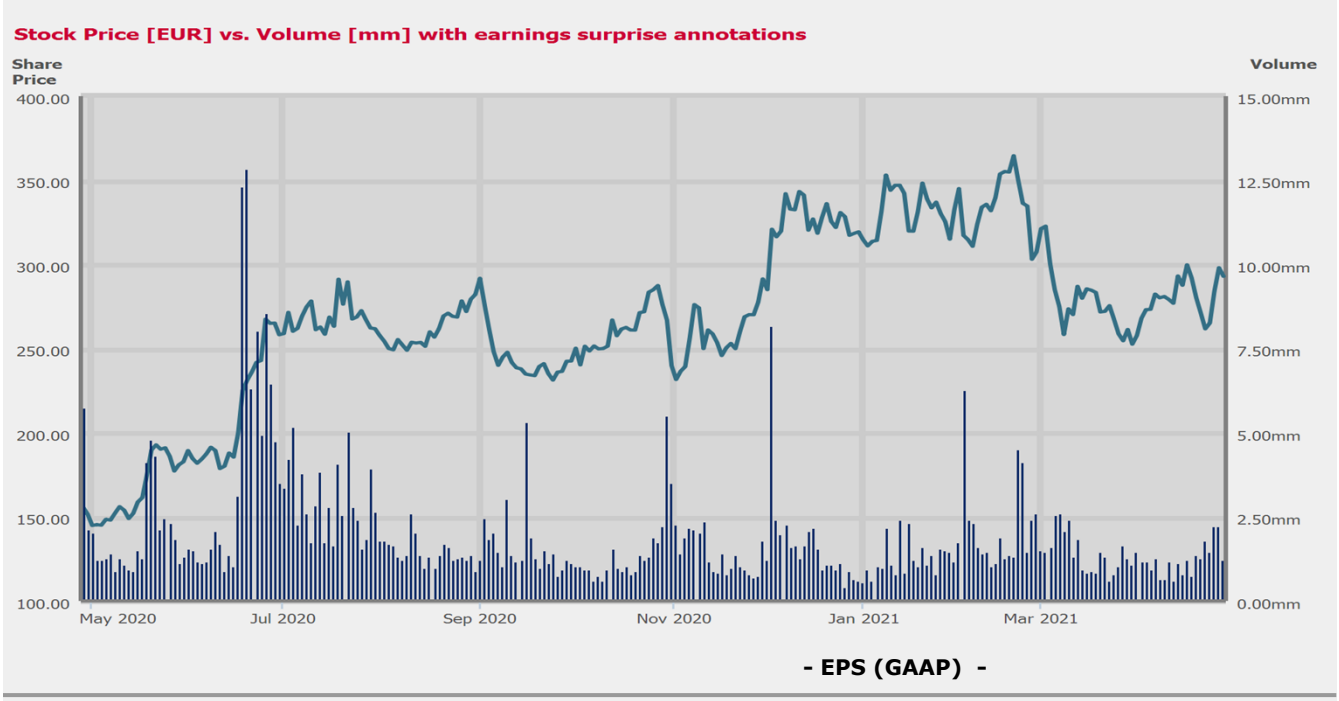
FQ1 2021 Earnings Call Transcripts

Wednesday, April 28, 2021 12:00 PM GMT

S&P Global Market Intelligence Estimates

	-FQ1 2021-			-FQ2 2021-	-FY 2021-	-FY 2022-
	CONSENSUS	ACTUAL	SURPRISE	CONSENSUS	CONSENSUS	CONSENSUS
EPS (GAAP)	(0.41)	(0.25)	NM	(0.53)	(1.68)	(0.85)
Revenue (mm)	2154.43	2147.00	▼ (0.34 %)	2274.74	9397.07	11249.60

Currency: EUR
Consensus as of Apr-27-2021 12:00 PM GMT



- EPS (GAAP) -

	CONSENSUS	ACTUAL	SURPRISE
FQ2 2020	(0.47)	(1.91)	NM
FQ3 2020	(0.54)	(0.53)	NM
FQ4 2020	(0.52)	(0.66)	NM
FQ1 2021	(0.41)	(0.25)	NM

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Call Participants

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Head of Investor Relations

Daniel G. Ek
Founder, CEO & Chairman

Paul Aaron Vogel
Chief Financial Officer

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Presentation

Operator

Good day, and thank you for standing by. Welcome to the Spotify First Quarter 2021 Earnings Conference Call. [Operator Instructions] I would now like to hand the conference over to your speaker today, Bryan Goldberg, Head of Investor Relations at Spotify. Thank you. Please go ahead.

Bryan Daniel Goldberg
Head of Investor Relations

Great. Thank you, and welcome to Spotify's First Quarter 2021 Earnings Conference Call. Joining us today will be Daniel Ek, our CEO; and Paul Vogel, our CFO. We'll start with opening comments from Daniel. And after the remarks, Daniel and Paul will be happy to answer your questions. We'll again be taking questions exclusively through Slido. Questions can be submitted by going to slido.com, S-L-I-D-O.com, and using the code #SpotifyEarningsQ121. Analysts can ask questions directly into Slido, and all participants can then vote on the questions they find the most relevant. [Operator Instructions] If for some reason, you don't have access to Slido, you can e-mail Investor Relations at ir@spotify.com, and we'll add in your question.

Before we begin, let me quickly cover the safe harbor. During this call, we'll be making certain forward-looking statements, including projections or estimates about the future performance of the company. These statements are based on current expectations and assumptions that are subject to risks and uncertainties. Actual results could materially differ because of factors discussed on today's call, in our letter to shareholders and in filings with the Securities and Exchange Commission.

During this call, we'll also refer to certain non-IFRS financial measures. Reconciliations between our IFRS and non-IFRS financial measures can be found in our letter to shareholders in the Financials section of our Investor Relations website and also furnished today on Form 6-K.

And with that, I will turn it over to Daniel.

Daniel G. Ek
Founder, CEO & Chairman

All right. Hi, and thanks for joining us. I'm pleased with the continuing momentum we're seeing across many aspects of our business this quarter, including our subscriber growth. 2020 was a very strong year for Spotify. And as we reported our Q4 results, I discussed the high degree of uncertainty we knew we would continue to face in this unprecedented environment. I also shared that we likely pull forward some growth as evidenced by our outperformance in MAU throughout this past year.

In Q1, this uncertainty played out largely as expected. Several metrics like subs, revenues, gross margin and ARPU came in a little higher, while MAU came in a little lower, but still well within our range. And some markets that we have previously seen really strong performance from, like parts of Latin America and Southeast Asia, showed some softening on the MAU side while others in both new and mature markets continue to demonstrate really impressive growth.

And while it's worth noting that of our 4 quarters, Q1 historically tends to be the quarter with the lowest new user activations, we also know that the world is in various stages of recovering from the pandemic, and we see that reflected in aspects of our business. And while I expect the puts and takes that we saw in Q1 to continue throughout much of this year, I still feel very confident in what's on the horizon, looking at the remainder of the year and beyond.

And as always, I want to focus the bulk of my time with you looking ahead. I am more confident than ever in our ability to deliver on our ambition to become the world's #1 audio platform. And if you tuned into our Stream On event in February, you probably understand why I'm so bullish. Our strategy to move from being a streaming service to being an audio platform is really starting to come to life. Look no further than the clarified messaging we launched yesterday around how we will enable access to paid audio products

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on top of Spotify. I really think this positions us to truly be the audio browser of the world. And for those who may have missed it, we detailed several new innovations and enhancements in our pipeline that will benefit both creators and the users. And this includes our recent launch into more than 80 new markets, which has opened up a new exciting opportunity for growth, and I will share more on that in a minute.

I also shared more on why I continue to believe that the opportunity in audio is still largely untapped with tremendous growth potential, far beyond what most of us can imagine today. Take music as an example. The latest numbers from IFPI just out this quarter reinforced the strength of the industry. It's seen an increase of 54% in global recorded music revenues since the 2014 low, and streaming revenues with a growth rate of more than 600% over the same time period, continue to propel the industry forward. Industry sources recently forecasted that the streaming market will triple, reaching $79 billion in revenues by 2030, and Spotify continues to be the primary driver that is pushing global music revenues to record highs.

Related to this, look no further than the price increases we just announced across 12 key markets, including the U.K. and U.S. And we did this on the back of successful rollouts in the previous 2 quarters when we implemented price increases in more than 30 markets. The positive data we continue to see in terms of the value users see in Spotify underscores the significant opportunity here. And you should expect that we will continue to leverage increases as we evaluate market conditions.

I hope you've also checked out our new site, Loud and Clear, which is increasing transparency on the economics of music streaming. There, you'll see the number of the most listened artists in the world is growing, and it's more diverse than ever. As more artists are finding success, the bigger the impact we, as a platform, can have in serving them and their teams. And the more successful artists there are, the more impact we can have on creating an even better consumer experience.

Speaking of consumer experience, we continue to see lots of opportunities to enhance our user experience across the board, and you should expect us to move quickly and invest aggressively when we do. Because the broader audio market is still in its infancy compared to music, the opportunities to innovate there are immense and evolving fast and furiously. We have long enjoyed a first-mover advantage, and we will continue to prioritize introducing new capabilities across all facets of audio. Our recent acquisition of the live audio room, Locker Room, is an example of this commitment to improving our experience. We want to be the absolute best partner to creators by giving them opportunities to create and grow and engage and monetize their art and fan base. And we have some exciting plans for Locker Room, and we will share more details in the coming weeks.

And while we decided early to go all-in on audio, it's giving us a head start of more than a decade and unrivaled size and scale. Others are, of course, taking notice. This isn't surprising at all given the enormous size of the audio market, which some projections indicate could be valued at $200 billion by 2030. Competition is nothing new for us. We saw it in music and always expected others to jump on the audio train when they realized how attractive it is to billions of listeners around the world. We believe we have at least 5 to 7x growth left in the business we are in today: music, podcasting and paid audio, and we intend to win in those businesses.

All that said, you should expect us to remain focused on our core pillars. For consumers, this is delivering a great consumer experience through freemium, ubiquity and personalization. And for creators, it is a maniacal focus on serving them through a personalized marketplace set of offerings and not one size fits all. As always, when we see opportunities that we believe will strengthen our capabilities for creators or consumers, you should expect us to prioritize the long term over the short term.

And to help realize our ambitions, over the last couple of months, we've led our most sweeping geographic expansion to date, turning Spotify on in more than 80 new markets across Asia, Africa, Europe and the Caribbean and Latin America. And in doing so, we're introducing the passions, the creativity, the sounds and cultures of creators in these markets to a global audience. We are ramping up quickly, evolving our content and adjusting our product as we learn about what makes the most sense on a hyperlocal level. These are only a few examples of the tangible efforts underway, and we will continue to aggressively pursue opportunities to expand our content and our offerings and enhance our user experience in spite of the uncertain environment.

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And with that, I'll turn it back to Bryan for questions.

Bryan Daniel Goldberg
Head of Investor Relations
All right. Thanks, Daniel. Again, if you've got any questions, please go to slido.com, #SpotifyEarningsQ121. Once your question is entered, you can edit or withdraw your question by selecting the option in the bottom right. We'll be reading the questions in the order they come in with respect to how people vote up their preference for questions.

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Question and Answer

Bryan Daniel Goldberg
Head of Investor Relations

And our first question today is going to come from Doug Anmuth at JPMorgan. You noted that the percentage of MAUs consuming podcast was consistent quarter-to-quarter, but you saw a strong increase in podcast consumption hours. Can you explain potential reasons for the delta there? And can you comment on how much of total consumption hours are currently podcasts?

Daniel G. Ek
Founder, CEO & Chairman

Paul, do you want to go?

Paul Aaron Vogel
Chief Financial Officer

Yes, I'll start with that one. So yes, at a high level, Doug, the consumption numbers were very strong. They're up about 20% quarter-over-quarter, so we feel really good about that. When you look at the percentage of podcast MAU relative to total MAU, some of that is kind of dependent on the point in time that the quarter ends. And so, December had a very strong month, particularly with Joe Rogan going exclusive. But when you look at the average podcast MAU over the average MAU over the period, it was up from Q1 over Q4. And when you look at the trend over the last really 6, 7, 8 quarters, particularly the last 4 quarters, that average growth in podcast MAU to average MAU has been up about 150 basis points quarter-over-quarter. So we feel really good about the overall trends in podcast MAU. And sometimes there's a little bit of lumpiness in the actual reporting just on how any one quarter ended with respect to new releases or launches or exclusivity.

And in terms of how much consumption, we don't break out how much consumption is on podcast. I will say that March is at an all-time high in terms of the amount of podcast consumption on the platform.

Bryan Daniel Goldberg
Head of Investor Relations

All right. Our next question comes from Rich Greenfield at LightShed. Everyone appears to be getting into the live audio business following Clubhouse. I'm curious how you think about live audio as a feature versus a stand-alone product? And how creators will decide where to go live, whether it be Spotify, Clubhouse or another platform?

Daniel G. Ek
Founder, CEO & Chairman

Yes. This is Daniel. I think live audio is clearly something that you should expect as capabilities go pretty much every major platform will have. And my expectation, it's really no different than how you think about Stories. Stories today exist on a format on a number of platforms, including Spotify, including, of course, Instagram, Snap and many others. So I do look at this as a compelling feature set, and I think creators will engage in the places where they have the best sort of creator-to-fan affinity for the type of interactions that they're looking for. And I think this is very similar to say how Stories played out historically.

Bryan Daniel Goldberg
Head of Investor Relations

All right. Our next question comes from Mario Lu at Barclays. You recently announced pricing of podcast subscription for content creators undercuts your competition. Are there opportunities outside of the podcast subscription itself that you can monetize to receive better than 5% economics?

Daniel G. Ek

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Founder, CEO & Chairman

I think this is a long-term play for us in terms of podcasting, but I do want to go back and just talk about here why I think this is important. As many of you know, we have, for now, the better part of more than 2 years, talked about how we believe openness is what's going to be important and drive innovation across the ecosystem. And the most important thing for us is that we play by those rules. And I think what we're -- we announced yesterday is just a very, very compelling product for creators where they have control. They have control in how they can message their consumers, they have control in how they can monetize their consumers. It's just a very attractive proposition that creators are very, very excited about and want to work with us.

As revenue opportunities goes, going forward from that, I think that there's so many tools that we can create for creators and for consumers alike, and there'll be plenty of revenue opportunities that will be coming from that. So look at this as the beginning. And again, as I've said many times before, we're in the early innings of audio. And the key thing right now is still moving off-line linear audio listening to online on-demand listening. And that's the trend line that we're pursuing. And there will be lots and lots of opportunities for finding monetization paths between creators and consumers into the future.

Bryan Daniel Goldberg
Head of Investor Relations

All right. We'll go to the next question, Mark Mahaney at ISI. Why did you reduce your full year MAU guidance but maintain your full year Premium Subscriber outlook? What's causing better-than-expected conversion of MAUs in the premium subs?

Paul Aaron Vogel
Chief Financial Officer

Yes. I'll start with that one. I think for us, if you look at the guidance, a lot of it is just taking into account the -- coming to the bottom of the range in Q1 on the MAU side, and the sub side was actually stronger than expected. I think if you take a step back, when we started the year, we did say we expected some greater variability within some of our metrics. I would say actually, we probably had more concern on the sub side. So the fact that the subs number came in better than expected is really positive for us.

And in terms of conversion, I would say kind of if you look at the subs-to-MAU ratio, it was up in Q1. It's still lower Q1 this year than it was Q1 last year. And typically, what you see for us, and you'll see this if you look at the history of Spotify. There's always some kind of waves where MAU seems to be the bigger driver and then subs becomes a bigger driver. And a big function of that is when you have periods of time where MAU grows very, very fast, it grows the top of the funnel. But it normally takes 6, 9, 12 months for us to convert those free users into premium-paying subscribers. So it's actually very logical to see that growth in MAU that we saw last year then translate into subs down the line. So actually, all the numbers are pretty consistent with what we expected. And I think we still feel really good about the overall trends in user growth and particularly subscriber growth.

Bryan Daniel Goldberg
Head of Investor Relations

All right. Next question comes from Ben Swinburne at Morgan Stanley. What percentage of your users have seen price increases thus far? If that's not having a material impact on top of funnel growth, can you elaborate more on what you see as the drivers of MAU softness relative to expectations?

Paul Aaron Vogel
Chief Financial Officer

Yes. I guess I'll start with that one as well. So we haven't disclosed the actual number of subs affected by price increases, but we're in over 40 markets right now. I think we feel good about what we have accomplished so far in terms of price increases. When you look at gross additions and churn, we've seen very minimal impact on either one of those metrics. So we feel good about the price increases.

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Yes, price increases wouldn't really impact top of funnel because top of funnel is sort of the free users, so there's really no impact on there. I think like a lot of folks, we saw exceptionally strong 2020. We did see a pickup in MAU growth starting in March of last year that, in hindsight, looks to be somewhat correlated to COVID in some ways. And so there's just a little bit of that comparison. But in general, I think we expected some variability. So it's not surprising to us. It was in sort of the complete range of our expectations. And like I said, I think we feel really good about the fact that we're able to grow subscribers faster than expected.

Bryan Daniel Goldberg
Head of Investor Relations

Okay. Next question from Jason Bazinet at Citi. Investors tend to think of Spotify as very sticky, implying low churn rates. You've made progress on churn, but it's still high relative to other subscription-based businesses like Sirius, DIRECTV, et cetera. What causes churn to remain elevated? And what's your long-term churn goal?

Paul Aaron Vogel
Chief Financial Officer

Yes. I would actually argue, our churn is not high. I think in markets where we're established, our churn is at really good levels, and we're growing really, really fast. And when you grow into newer markets where you're a newer product, churn tends to be higher and it comes down over time. So the fact that our churn rate continues to come down is a positive for us. I don't think we've ever put out an actual churn target, but I do think you can expect it to continue to come down over time. So I think we feel really good about it. As I said, I think the churn in some of our more mature markets are at levels that you expect of businesses that are mature. And I also think that when you kind of -- when you think about the mix between the mature markets and the growing markets, the churn is pretty appropriate for the level of growth we have right now.

Bryan Daniel Goldberg
Head of Investor Relations

Okay. Our next question is going to come from Matt Thornton at Truist. Can you talk about the Facebook partnership, how accretive you think it could be to the business as well as Car Thing, including how you're thinking about go-to-market?

Daniel G. Ek
Founder, CEO & Chairman

Yes, sure. I mean these are obviously 2 very different partnerships. But they fall under the same strategy for us, which is ubiquity. And so, when you look at Facebook as an example, it's obviously one of the world's largest platforms, reaching billions of consumers around the world. And one of the key insights for us has been just how many Spotify users are constantly sharing their tracks on Facebook and Instagram and other social platforms and expressing themselves that way. So you should look at this as a way of reducing friction which will, of course, enable a much better experience. So it's too early to say what the overall impact will be. But generally speaking, when you reduce the friction for consumers, you tend to see great results. And I have high hopes that the Facebook partnership can certainly do that.

And then when it comes to the Car Thing, I think, again, the most important thing as you think about audio products is that the car happens to be a major use case. So if you look at the car radio, which is still today, where most of the offline radio listening happens, it is pretty clear that it's an ongoing transformation that is going on. If you look at cars like Tesla, et cetera, you see it very clearly where these streaming services now is the de facto radio in the car. And so Car Thing is our attempt of speeding up that progress into a future where you will have just as great experience as you have on your mobile, in your car. And you can now use that as your sort of in-car entertainment system instead of this antiquated radio systems that most people have in the car. And early results is just very, very encouraging. It seems like we've really struck a cord with what consumers want. And so we're seeing a lot of excitement, but it's, of course, very, very early. And I think based on how people will use the product, et cetera, we will

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certainly think a lot more about what the appropriate go-to-market strategy will be and how we can most effectively roll it out.

Bryan Daniel Goldberg
Head of Investor Relations

Okay. Thanks. Next question will be from Deepak at Wolfe Research. Given the recent launch of several new offerings, can you discuss your updated thoughts on potential gross profit contribution from Marketplace in fiscal '21 and in the next few years?

Paul Aaron Vogel
Chief Financial Officer

Daniel, do you want to talk about Marketplace at a high level and then I could talk about the gross margin directly?

Daniel G. Ek
Founder, CEO & Chairman

Yes, sure. So I think I've said this before, but I'll say it again, we're very, very early in our efforts of moving the entire music industry from this one size fits all to a more individual offering. And the way we're taking that approach is we're trying to create really across the whole audio stack, even beyond music as well, just creating more opportunities for creators to create, for them to be able to distribute, for them to be able to grow their audience and for them to be able to monetize their audience. And most of the Marketplace products that we have today is just enabling music creators to be able to grow their audience. And the early response that we've had on those products have just been phenomenal, with many artists seeing twice the uplift that they have from other marketing channels and really, really strong retention from customers as well that are engaging with these products.

I think there's a lot of excitement in the music community among the people who have used these products, and we're kind of gradually rolling it out and having more and more artists and teams experimenting with our products.

Paul Aaron Vogel
Chief Financial Officer

Yes. And then just from a gross margin, we haven't given out specific targets, but I would say we talked about at the end of a year ago in terms of where we were. And then we had significant growth in 2020, expecting significant growth again in 2021. And right now, Marketplace was in line with expectations in Q1, and we expect to have another really strong growth year for us in 2021. And it is starting to be a positive contributor to gross margin, and we expect it to continue to grow over time. We haven't given any specific targets out, but we do feel good about kind of the ramp over the last year or so.

Bryan Daniel Goldberg
Head of Investor Relations

All right. The next question is going to come from Justin Patterson at KeyBanc. On advertising, could you elaborate more on the strength in podcast advertising? And how are advertisers responding to SAI technology?

Paul Aaron Vogel
Chief Financial Officer

Yes. Podcast advertising was strong in the quarter. Organically, it was very strong. And then, when you throw on top of it, JRE or Joe Rogan and Ringer and Megaphone, it's really starting to see an accelerant to growth on the advertising side.

SAI is in high demand. There's -- the feedback has been great as we roll that out into more areas within the advertising business and more areas in podcast, and we expect it to be a big driver of growth. I would say, if you take a high-level view of advertising in general, I think from a product and technology

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standpoint, from an innovation standpoint, we think we're really just scratching the surface of where we're going to go, and we feel really good about the tech stack we're investing in. We feel really good about all the incremental inventory we have with respect to Megaphone and Joe Rogan and The Ringer and Parcast and Gimlet and Anchor products. And so I think we feel really, really good about the opportunity for us to really drive advertising across the business.

Bryan Daniel Goldberg
Head of Investor Relations

Okay. Next question is going to come from Richard Kramer at Arete. It's on pricing. Do you expect competitors to match your price increases in key markets like the U.S. and the U.K.?

Daniel G. Ek
Founder, CEO & Chairman

So I'm not sure, to be honest, but that was never a deciding factor in how we approach the decision. We focused on our business and the data that we're seeing. And there, the -- it's very, very clear and very, very compelling data, which is we see enormous amounts of engagement with our consumer, and it's been growing year-over-year-over-year as we've been improving the proposition, both in terms of personal -- better personalization, better features, but obviously expanding the content library significantly with the addition of podcasting and exclusives as well.

So I think it's on the back of that, the usual read that we feel very comfortable about doing that. And you should obviously look at our expansion of these price increases as -- that we see the strategy working.

Bryan Daniel Goldberg
Head of Investor Relations

All right. Next question from John Egbert at Stifel. Can you discuss how Locker Room complements your existing spoken word content strategy? What are some of the immediate synergies you see with your existing offering? Do you view linear consumption of spoken word audio as a more interesting opportunity than live music streaming?

Daniel G. Ek
Founder, CEO & Chairman

Yes. So I think the first and foremost, the important thing is to visualize Spotify as a platform. So we have over 8 million creators and, obviously, more than 350 million users on this platform. And most of the time, the #1 thing that our users are asking us help, is help me find more great content. And the #1 question our creators are asking us is help me connect with my fans in more ways. So live, you should really view live as the opportunity for creating new and meaningful ways to connect creators and fans. That's how we look at it.

And then as platforms mature and features some platform mature, usually, the features in the beginning tend to be creators that are experimenting a lot more are probably not the most successful creators that jump on the platform. And then, as more people start engaging with a feature in a medium, you start seeing more and more professional creators jump on board. So I think it's probably going to start out with spoken word content. But specifically as it relates to Spotify, I think that there will be a lot of musicians that want to engage in everything from speaking to their fans to having listening parties and all other things because it's so clear to them that on the Spotify platform, that engagement drives meaningful conversion to monetization opportunities just on the basis of our revenue [model].

Bryan Daniel Goldberg
Head of Investor Relations

Okay. The next question is going to come from Maria Ripps at Canaccord. Live audio is a fast-growing space but also one that gained popularity during the pandemic when people were spending more time at home. How does Spotify plan to integrate this feature within its audio ecosystem to make it just as useful when people are back in their normal routines?

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Daniel G. Ek
Founder, CEO & Chairman

I think it really just comes down to creating compelling content. As an example, again, you can imagine as in the previous question, we may have an artist that has an upcoming album and you, as the fan, may be able to experience that earlier than other consumers can, or you can have an artist to explain what the thinking around writing a certain song was. And you can obviously have comedians and other people engage on topics that they're currently experiencing or imagining. So I think it really comes down to the quality of the content. And I think when I look at our 8 million creators, we have some of the world's best storytellers on the platform, and that's ultimately what people will tune into, and that's what matters.

Paul Aaron Vogel
Chief Financial Officer

And I would also just add, with our ubiquity strategy, we've been able to sort of pivot in both directions. And so you think about when people start -- first started being at home a lot more and interact with game consoles and voice speakers, we sort of leaned into that, which was super great. And when people start traveling and being out again, they'll be able to use other devices just as equally. And so having that sort of ubiquity strategy, having our platform and Spotify on as many devices as possible has allowed us to be successful no matter how you're -- how and where and when you're using audio content.

Bryan Daniel Goldberg
Head of Investor Relations

Okay. Next question from Lloyd Walmsley at Deutsche Bank. Based on the improvement in churn, it would appear that gross Premium Subscriber additions didn't really grow year-on-year in the quarter despite opening up new markets. Do you think gross adds -- the growth in gross adds will be declining on a year-on-year basis going forward? Or can you grow those again?

Paul Aaron Vogel
Chief Financial Officer

I'm not going to comment specifically on gross adds. I will say our gross adds were very strong in the quarter. Without getting too much of the technicals, I think because we give you guys rounded numbers and not actual numbers, sometimes trying to back into our gross add numbers can be misleading. But I will say our gross adds were strong in the quarter. So we feel good about that, and we feel good about the overall subs number in general. And so yes, no comment other than that, but I feel good about the gross adds and the net adds, both for the quarter and for the year.

And also, just in terms of your new markets, obviously, as you can imagine, a lot of those new markets take a little while to ramp. So there wasn't really an expectation that there'll be massive increases in subscribers in our new markets, although they performed in line with our expectations.

Bryan Daniel Goldberg
Head of Investor Relations

Okay. Next question from Nick Delfas at Redburn. How do your DAUs compare to your MAUs? And are you seeing lower engagement? Is that why MAUs were below expectations this quarter?

Paul Aaron Vogel
Chief Financial Officer

The DAU-to-MAU ratio has been pretty steady, both overall and for Premium and ads. It's actually, in general, been ticking up a little bit across both over the average of the last couple of quarters. So we feel good about that ratio.

I mean I think we've talked about the MAU a lot. There was some pull forward. We had a very strong 2020 in general, but we feel good about the overall trajectory. We still feel good about the overall number of net additions that we expect in MAU for the full year, and engagement remains really solid on the platform.

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Bryan Daniel Goldberg
Head of Investor Relations

Okay. Next question from Mike Morris at Guggenheim. How does your share of listening in the car compare to your broader share of overall listening? How significant is this segment of the market? Can broader distribution of Car Thing be a step toward meaningful engagement expansion?

Daniel G. Ek
Founder, CEO & Chairman

Yes. I think that's exactly the right way to look at it. I mean if you look at audio as a category, it has 3 distinct use cases. One is in the home, one is on the go and one is in the car. In the home, it obviously competes with other forms of media like video, et cetera. On the go, you -- there's a lot of things you can do, but audio happens to be a very strong medium there, too. And in the car, obviously, video and other type of sort of immersive experiences is not very common. So audio there happens to be a very, very big part of overall what people do in the car. And especially in the U.S., the car use case is obviously massive. So I think you should look at Car Thing as a way of us sort of full stack going in and reimagining what the user experience in the car for the next-gen car entertainment system should look like. And this is our version of that. And I think this is also why it's so pleasing to see the early results of that and how engaged consumers were in just sharing the message and being super excited about that. So we're very encouraged with it, but it's very early days.

Bryan Daniel Goldberg
Head of Investor Relations

Okay. Next question from Andrew Marok at Raymond James. With Q1 podcasting MAU penetration consistent with Q4 levels, but consumption hours increasing, how are you thinking about the opportunity in terms of increasing podcast penetration versus driving more engagement with existing podcast users?

Paul Aaron Vogel
Chief Financial Officer

Yes. I touched on this in the earlier question, but in general, I think the podcast MAU penetration continues to move up. As I said, we had a really good growth last year in Q4, in particular, where we're up about 300 basis points quarter-over-quarter. And December, in particular, was strong given some of the exclusivity that we had in December. But in general, again, if you look at the average podcast MAU over the average MAU over the last couple of quarters, that continues to trend up. And so we expect that the overall percentage of MAU who engage with podcast will continue to move up. So we feel like that line is -- a net curve is really, really strong.

And engagement has continued to move up. We're seeing it in new users and existing podcast users and it was up very strong quarter-over-quarter. So we feel like the engagement is there and will continue to lead to more podcast usage overall.

Bryan Daniel Goldberg
Head of Investor Relations

Okay. Next question from Mark Z. at Rosenblatt Securities. Could you discuss the variables in the low versus high end of your gross margin guidance? I assume that's for fiscal '21.

Paul Aaron Vogel
Chief Financial Officer

Yes. I mean there's always a number of things that go into that. I mean I think one of it is content and the speed with which we continue to grow the content base. So there's an element of that, that's in there. As I've said in the past, I think overall music, margins will be flattish for the most part. There's always some variability, but for the most part, flattish. We do see some benefits from Marketplace. So the upside or downside on Marketplace as well could be a driver.

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And just on the other cost of revenue, we actually have seen a little bit more leverage on things like streaming delivery and payments than we expected. At least in the first quarter, it was a little bit better than we thought. So how that trends over time will also dictate it. So those are sort of the main points. As you did see, we did raise the gross margin guidance for the full year. So we do feel like right now, we're on pace to have a little bit better gross margin year than we expected when we started the year.

Bryan Daniel Goldberg
Head of Investor Relations

Okay. We've got a question from Steven Cahall at Wells Fargo. Well, it looks like -- can you tell us what per user consumption hours are in North America and Europe, where they grew in the quarter and in developing regions, where there was some COVID pressure in Q1?

Paul Aaron Vogel
Chief Financial Officer

Yes. I don't believe we've given out that number in the past. So I do not know if I can add to that other than to the -- and we haven't really set specific growth rates or regions. But as I did say, the overall consumption, I think it's in your question. It has above COVID levels in many markets and in some markets where it was weak. That hasn't come all the way back, they are improving. So again, we feel good, in general, about the consumption trends across the platform.

Bryan Daniel Goldberg
Head of Investor Relations

All right. Next question from Atlantic Equities. I believe that's Hamilton Faber. Can you talk about monetization models for live, and if how these differ from your current capabilities? And what you need to drive this new opportunity?

Daniel G. Ek
Founder, CEO & Chairman

Yes, sure. So I'm really, really excited about this. And I think this is one of the areas where we can learn a lot from what's happening in China and particularly, which has a lot more sort of developed ecosystem when it comes to live products, et cetera. So obviously, right now, our primary focus is just creating more meaningful engagement on live products across the base, and this is about getting our 8 million creators to interact with the hundreds of millions of consumers that are on the Spotify platform. But over time, I think that this will be a very, very big potential from a revenue standpoint in addition to these existing models that we have today.

But I also do want to kind of up-level this question for a moment, which is if you really think about this, the real big transition for us in these past few years has really been obviously from music to being audio. But the other trend line that's very clear, as I said in my opening remarks, is going from a music service to being an audio platform. And if you think about that audio platform narrative for a moment, it really has a few core pillars. One of them is create, one of them is distribute, another one of them is engage and the fourth pillar is monetization. So we are investing massively in all 4 of these pillars, making it easier for creators to create. You can imagine that with sort of live experiences, making it easier for people to distribute their content, Anchor being a great example, where we're consistently just innovating on music and talk, other types of format that just allows creators to express themselves in different ways. And then, of course, growing people's fan base and create new forms of engagement with their audience. And then lastly, of course, monetization where you have everything from SAI to subscription packages that we announced yesterday.

This is a massive road map that the company has taken on and that you're seeing us execute on. And I'm really, really pleased with the early innings of how that platform now is coming to life. And I think over the long term, that's what I'm super excited about because we have this audience now of 350 million and these 8 million creators. And it's really about creating -- across this create, distribute, engage and monetize, creating more and more avenues for these 2 groups to connect with each other, engage with

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each other and monetize those engagement. So yes, very, very encouraged and very early days on the evolution of the audio ecosystem.

Bryan Daniel Goldberg
Head of Investor Relations

Okay. And we're going to go to the next question from Jessica Reif Ehrlich at Bank of America, another one on Car Thing. What's the timing on a broader rollout for this initiative? And what are the incremental revenue opportunities that Spot can capture by targeting in the car?

Daniel G. Ek
Founder, CEO & Chairman

So early days still. Still shipping the products to the consumers that signed up. So it's too early to say, I think, from a broader roll-up perspective. But as we mentioned there, when we roll it out broader, it will likely have a consumer price point as well and not be a free product as it has been in this early innings.

Bryan Daniel Goldberg
Head of Investor Relations

Okay. And we're going to go now to follow-up questions. We've got time actually for one more, and that's going to come from John Egbert at Stifel. How much interest are you getting among Megaphone publishers and other podcast creators looking to participate in the Spotify Audience Network? Are you sensing any hesitance to participate from larger, more established creators? And how quickly do you expect network inventory to scale in 2021?

Paul Aaron Vogel
Chief Financial Officer

Yes. I guess I'll start with that one. Yes, I think it's a little bit -- it's too early to tell. I think we're super optimistic about what the audience network will be able to provide, both to the publishers and the advertisers as well as us in terms of just broadening out the amount of inventory, the audience they can reach, the targeting capabilities and you sort of throw on top the things we're doing with SAI. And we think there's a lot of opportunity to grow the overall market and podcasting. We know there's a ton of demand out there from podcast advertisers and folks who want to advertise on podcasting. And all of the recent enthusiasm about podcasting and audio content has only helped that. So I think we feel really good about where we are. I think we're super pleased having made that acquisition last year in terms of where we're set up for the future.

Bryan Daniel Goldberg
Head of Investor Relations

All right. Great. So we're out of time now for Q&A. So I will turn the call back over to Daniel for some closing remarks.

Daniel G. Ek
Founder, CEO & Chairman

Well, thank you, Bryan. In my experience, the key to our future success is to stay focused on our long-term opportunity. And short term, we will continue to perform while rolling out with the ups and downs inherent in challenging and unpredictable environment. Put another way, we at Spotify, are stubborn on ambition but flexible on the details of execution. We will continue to experiment and prioritize being nimble and accelerate plans when the opportunity makes sense. And in this audio world where creators and consumers are at the heart of everything we do, we see ourselves as a huge catalyst for growth. And we're committing to holding ourselves accountable to living in a constant state of improvement. This is what drives me and the team to come to work each and every day. And I'll be talking more about our earnings report on our podcast, For the Record, which will go live on our platform tomorrow. Thanks again, everyone, for joining us.

Bryan Daniel Goldberg

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Head of Investor Relations
Okay. And that concludes today's call. A replay of the call will be available on our website and also on the Spotify app under Spotify Earnings Call Replays. Thanks again, everyone, for joining.

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Spotify Technology S.A. NYSE:SPOT

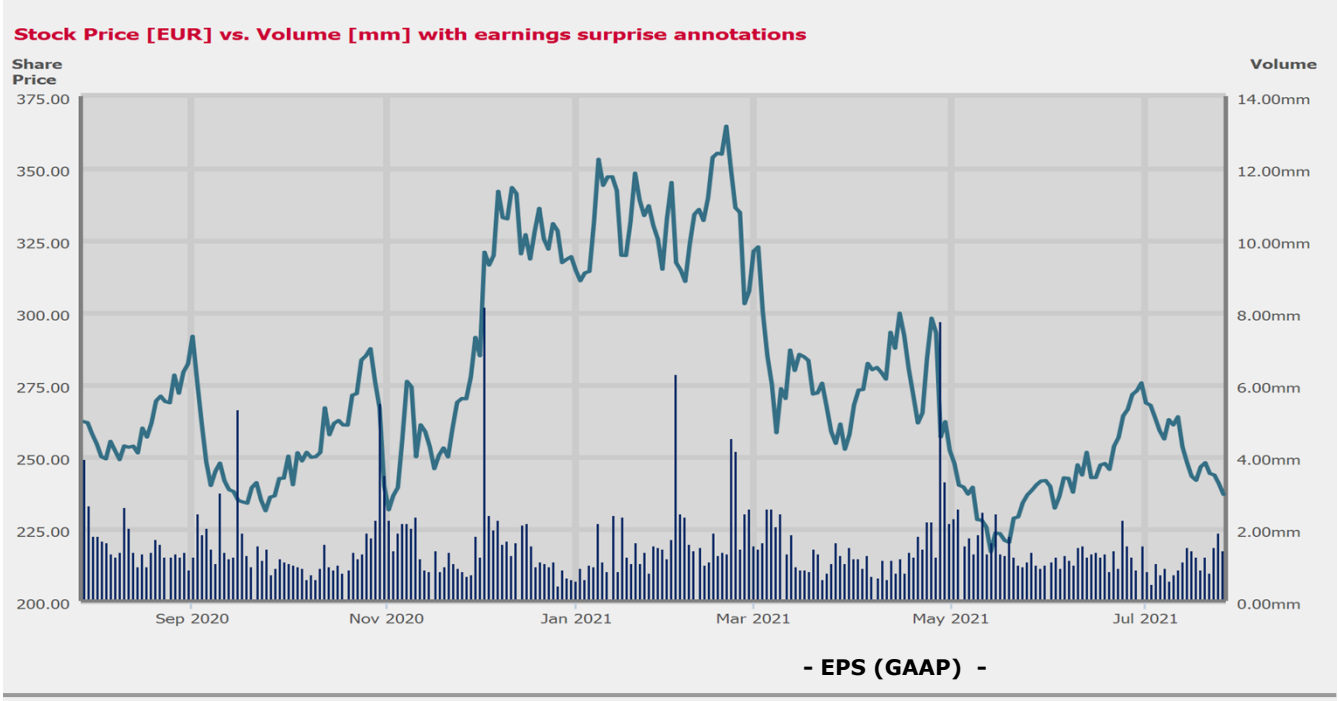
FQ2 2021 Earnings Call Transcripts

Wednesday, July 28, 2021 12:00 PM GMT

S&P Global Market Intelligence Estimates

	-FQ2 2021-			-FQ3 2021-	-FY 2021-	-FY 2022-
	CONSENSUS	ACTUAL	SURPRISE	CONSENSUS	CONSENSUS	CONSENSUS
EPS (GAAP)	(0.41)	(0.10)	NM	(0.36)	(1.09)	(0.44)
Revenue (mm)	2285.89	2331.00	1.97	2389.43	9405.39	11225.49

Currency: EUR
Consensus as of Jul-28-2021 12:31 PM GMT



- EPS (GAAP) -

	CONSENSUS	ACTUAL	SURPRISE
FQ3 2020	(0.54)	(0.53)	NM
FQ4 2020	(0.52)	(0.66)	NM
FQ1 2021	(0.41)	(0.25)	NM
FQ2 2021	(0.41)	(0.10)	NM

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Call Participants

EXECUTIVES

Bryan Daniel Goldberg
Head of Investor Relations

Daniel G. Ek
Founder, CEO & Chairman

Paul Aaron Vogel
Chief Financial Officer

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Presentation

Operator

Ladies and gentlemen, thank you for standing by, and welcome to the Spotify Q2 2021 Earnings Conference Call. [Operator Instructions] I would now like to hand the conference over to your speaker today, Bryan Goldberg, Head of Investor Relations. Thank you, sir. You may begin.

Bryan Daniel Goldberg
Head of Investor Relations

Thank you, and welcome to Spotify's Second Quarter 2021 Earnings Conference Call. Joining us today will be Daniel Ek, our CEO; and Paul Vogel, our CFO. We'll start with opening comments from Daniel. And afterwards, Daniel and Paul will be happy to answer your questions. Questions can be submitted by going to slido.com, S-L-I-D-O.com and using the code #SpotifyEarningsQ221. Analysts can ask questions directly into Slido, and all participants can then vote on the questions they find the most relevant. [Operator Instructions] If for some reason you don't have access to Slido, you can e-mail Investor Relations at ir@spotify.com, and we'll add in your question.

Before we begin, let me quickly cover the safe harbor. During this call, we'll be making certain forward-looking statements, including projections or estimates about the future performance of the company. These statements are based on current expectations and assumptions that are subject to risks and uncertainties. Actual results could materially differ because of factors discussed on today's call, in our letter to shareholders and in filings with the Securities and Exchange Commission.

During this call, we'll also refer to certain non-IFRS financial measures. Reconciliations between our IFRS and non-IFRS financial measures can be found in our letter to shareholders in the Financials section of our Investor Relations website and also furnished today on Form 6-K.

And with that, I'll turn it over to Daniel.

Daniel G. Ek
Founder, CEO & Chairman

All right. Hi, everyone, and thank you so much for joining us. I will touch briefly on the quarter and then offer context for some of the opportunities I see across our business. All along, we've been pretty clear that our outlook for 2021 included a higher degree of variability given the ongoing uncertainties of the pandemic and the uneven recovery worldwide. And with the exception of MAU, we've had another strong quarter, which is apparent in the solid outperformance of all other metrics. And while I'm disappointed that our MAU growth was softer in the last half of Q1 and the first half of Q2, the good news is that we've seen the trend line reverse and all the leading indicators I'm seeing show that we're back on track. And there's a lot to learn for us on the MAU shortfall. Markets like India, Brazil and parts of Southeast Asia lagged behind our expectations, and we've also seen slightly slower adoption rate in some of our newly launched markets.

All these regions have been hard hit by COVID. Ultimately, we lost about 1/4 of growth between Q1 and Q2. And in hindsight, we'd likely underestimated the acceleration we saw in MAU growth in 2020. All that said, I feel really, really good about what we're seeing. Taking a bigger picture view and looking at the last 2 years average together, we're still on track to outpace our MAU growth in these 2 previous years. 2020 was a bit of an outlier. Companies rarely grow in a straight line, and nothing in our data changes our long-term outlook and the audio opportunity for Spotify.

In fact, if there's one thing that has surprised me the most during COVID, it's been how effectively we've been able to dream up and accelerate the roll-up of new innovations in the midst of tremendous disruption, while also executing against our existing road map. And long term, I believe speed of iteration will be a key competitive differentiator. So there's a lot of positives that we also bring with us from this. We've highlighted several of these innovations in our letter, where we've actually introduced more than

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20 significant new features over the last few months. It's been on everything from collaborative listening worldwide to launching our new live audio experience, Spotify Greenroom.

We also began rolling out paid podcast subscriptions and Spotify Open Access, both of which offer solutions for creators and publishers to earn revenue from their Spotify listeners. These product innovations unlock an entirely new class of content on Spotify. And I'm hearing from consumers and creators alike about their first-hand experiences with the changes they are seeing on the Spotify platform. And frankly, from where I sit, it's incredibly exciting to know that there are plenty of improvements we can deliver that will substantially enhance our offering and, as a consequence, open new doors for Spotify as well. And all of this has been accomplished while our entire team has been remote, allowing more teams across the world to collaborate on each new release. And we've used our learnings to supercharge our velocity of shipping, and that impact is starting to show.

Put in other words, the platform we're building is all about moving from 8 million to 50 million creators and from 400 million to more than 1 billion users on our platform. For each improvement, we will turn more listeners into super fans, give voice to more types of creators and offer users multiple of ways to interact and engage with the talent they love. When we connect creators at every stage with fans around the world, our flywheel moves faster and faster, unlocking even more potential growth. We are still early in moving linear radio to on-demand audio, which just goes to show the growth opportunity still out there is significant. Then of course, there's the growing strength and importance of our ad business. Admittedly, this is an area where I previously didn't spend much time, but it's becoming impossible to ignore. It's now safe to say it's becoming a second big revenue driver for Spotify.

And I'm especially inspired by the early success of the Spotify Audience Network. While we are growing the overall ads business from a small base, the potential is significant and the trend line is clear. We saw strong growth of 110% year-over-year. Adjusting for FX, the growth is even more impressive, coming in at 126%. And looking at podcasts, podcast revenue was up over 627% year-over-year or nearly 200% on an organic basis. And the continued outperformance is currently limited only by the availability of our inventory, which is something we're actively solving for. So it's clear to me that the days of our ad business accounting for less than 10% of our total revenue are behind us. And going forward, I expect ads to grow to be a substantial part of our revenue mix. So as you can see, there's a lot going on, and there's a powerful pipeline of platform improvements that will benefit consumers, creators and brand partners in Q3 and Q4.
And now I'll turn it back to Bryan and the questions.

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Question and Answer

Bryan Daniel Goldberg
Head of Investor Relations

Thanks, Daniel. [Operator Instructions]

And the first question today is going to come from Ben Swinburne. Can you provide some data during the first half of the year that supports the view that MAU weakness is driven by COVID-related factors? For example, are the regions performing better or worse where the variance can be explained by different phases of lockdown, reopening or economic stress?

Paul Aaron Vogel
Chief Financial Officer

Yes. Thanks, Ben. So we can and we've looked at this. And so there's a couple of things I would highlight. So first is we know in general that engagement leads to better MAU and better retention. And so where we have markets where engagement is high, we're seeing positive trends and where engagement is not as high, the trends aren't as great. And so how can we measure that? Well, there's a couple of ways. One is what we've noticed in markets that where COVID is significant, lockdowns are significant or the spread is significant, you're seeing less mobility. And in markets where you're seeing things more open, you're seeing more mobility. And more mobility leads to higher engagement, which tends to lead to higher retention and better MAU. So we've seen it in that data.

We've also seen it, as we've talked about in the past, when we first went into COVID, we sort of mentioned that every day kind of look like the weekend, meaning every day had sort of similar types of patterns that were like a Saturday or Sunday, you didn't have the normal cyclicality in the day through a commute. And what we've seen is, again, in markets that are more open, in markets that are -- where it's less of an issue, you're seeing a little bit more of a return to cyclicality. Weekdays are starting to get back to the way they normally are with that cyclicality and that usage and engagement. And in markets where COVID is still bad and we're still in lockdown phase, those midweek days are still looking like weekend days. And so we can see it in that data as well.

So that's kind of a nutshell sort of thinking about it from the engagement and metrics perspective. The other thing we know is in markets where COVID was very prevalent, we cut back on marketing and advertising pretty significantly. So regions, in particular, India is one where we're still relatively new there. We know how our marketing plans work. We know that when we do marketing plans, they tend to have a direct impact on user growth in India. We didn't really spend any money in Q2 in India, given what was going on with COVID in that area. And so as we increase some of the advertising, increase some of the spend in the back half of the year, assuming some of these markets get better, we feel like we'll see some of that MAU growth come back where we weren't spending in the last quarter.

I think those would sort of be the highlights of sort of how we've tried to triangulate between kind of markets with COVID and where things are better and worse and how they've impacted kind of our engagement metrics and our MAU growth.

Bryan Daniel Goldberg
Head of Investor Relations

All right. Our next question is going to come from Matt Thornton, another one on MAUs.

Wondering if you could expand on or quantify the impact of the intake issue you experienced with a third-party platform? And again, what gives you confidence that slower MAU growth is a function of COVID as opposed to a function of price increases, competition and/or saturation?

Paul Aaron Vogel
Chief Financial Officer

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So I'll take the first part and I guess I'll let Daniel take over the second part. So with the third-party platform, that was an issue with e-mail verifications between us and the third party. In full disclosure, this was an issue on our end. We made a change that was not caught soon enough, and we believe it had an impact on growth. The estimate right now was about 1 million to 2 million of MAU growth was impacted by the friction created by this e-mail verification change. It's since been corrected and shouldn't impact -- should not be an impact in Q3.

In terms of the first half of the second part of that question, again, talking about COVID, I think I mentioned it in the last question. I will say, we obviously don't think it's price increases because our subscriber growth was actually slightly better than expected. So price increases would really have a bigger impact on subscriber growth as opposed to free user growth. And then maybe I'll let Daniel talk about sort of competition and saturation.

Daniel G. Ek
Founder, CEO & Chairman

Yes. I mean as Paul kind of outlined both in this question and the last one, most of the underperformance we saw were in sort of emerging markets and not sort of Western markets. So as it goes to the question of saturation, et cetera, those are also in markets where we're in much earlier stages of growth rather than the sort of bigger markets like the U.S. and most of Europe as well.

And then as competition goes, I still look at all the leading indicators. Our engagement is up. NPS scores looking super healthy compared to competitive set, et cetera. So we feel really, really good about where we are from a competitive standpoint. We see a strong demand for Spotify really across the world. But obviously, as we said, going into the year, 2021 will have a higher degree of variability and especially for a global company like Spotify, where we have so many regions that are all in different stages of maturity. And I really think that's what you're seeing here. And just to contextualize it even further, it's really been playing out over a quarter. So I look at it more as a bump on the road than anything else, and because we've had such a strong 2020 year. So if I'm disappointed about anything, it's probably just we should have seen it coming more in the forecasting, but it's obviously very difficult to forecast these things. But I feel really, really good about our long-term growth prospect and that hasn't changed.

Bryan Daniel Goldberg
Head of Investor Relations

All right. Next question is going to come from Mike Morris. How did churn compare for subscribers seeing price increases during the first half of '21 versus those who didn't? Has it varied meaningfully by market? And what's your view of future price increase potential for standard subscribers or additional increases for other plans?

Paul Aaron Vogel
Chief Financial Officer

Yes. So churn was down year-over-year and quarter-over-quarter, which is great. We don't get into specifics about regions or geographies or products. I will say that in the markets where we increase prices, things performed in line with expectations, if not slightly better. There was, in terms of thinking about things from a gross intake perspective or from a churn perspective, again, everything was sort of in line or slightly better. So nothing there to call out at all in terms of an impact from price increases. We are continuing to roll this out. We've tested in a number of markets. I'm not really going to comment on whether or not we'll roll out into more markets or more standard plan or family plan, but you can imagine we're going to continue to test and experiment with all different offerings.

And again, we're excited about how the trends have been so far in the markets where we have raised prices.

Daniel G. Ek
Founder, CEO & Chairman

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Just maybe to iterate on the strategy here. The strategy for us is really all focused on increasing engagement. If we increase the engagement, the value per hour increases of our customers. And as we're seeing that, we will be proactive in raising prices when we believe that ability exists. So it's more aligned with the engagement of our customers rather than maybe some may have speculated competitive sets, et cetera. And that's what we feel so good about when we have raised prices is both the engagement staying very, very strong and the fact that, as we've said many, many times, we have more than 2 or even 3x and sometimes the amount of engagement per user than some of our competitors do.

And obviously, that means that there's a very, very loyal customer base there. And I think that's what you've seen play out in the business and why subscriber growth has been so strong as well.

Bryan Daniel Goldberg
Head of Investor Relations

Right. Next question is from Justin Patterson directed to Daniel. At Stream On, Daniel, you talked about 1 billion user opportunity for Spotify. Given the degree of growth that implies, what are the key investments you need to make to deliver on that target?

Daniel G. Ek
Founder, CEO & Chairman

Yes. I touched upon this in the opening remarks. But for us, it's -- we've grown in the past few years from about 1 million creators to now more than 8 million creators. But the opportunity in front of us is really to get to more than 50 million creators. And as part of that, it's really all about getting those audiences, of those 50 million potential creators, to start listening to that content, becoming super fans and creating more and more tools for the creators and fans to start engaging with each other, turning that engagement into monetization opportunities and so on.

So that's really the kind of main strategy. And a lot of that comes down to a combination of platform improvements, discoverability of just being able to showcase and seeing new content. And then obviously, the content team and onboarding new creators and finding compelling ways to get creators to feel like Spotify is the #1 platform. Because when that happens, it is a flywheel that turns into more creators turns into more users and more users turns into more creators and so on and so forth.

Bryan Daniel Goldberg
Head of Investor Relations

All right. Next question from Mario Lu. Can you provide more details on both the strategy and economics of Spotify Open Access? Are partners expected to pay Spotify a revenue share of subscriptions? Or is the main goal simply to increase engagement on the Spotify app overall?

Daniel G. Ek
Founder, CEO & Chairman

Yes. So really, the idea between Spotify Open Access is to provide an open platform for creators. So we want to enable as much audio as possible, and we view it as we want to be the audio platform of the world. And we have multiple of ways for creators to engage with our platform. One of them is obviously the Open Access, where we don't partake and take any revenue and the creator themselves can choose how they best want to monetize their audience, or in the case they already had a paid audience like Ben Thompson, they can enable that audience to listen friction-free on the Spotify app without sort of any hiccups.

And then to the extent that the creator needs help in both create -- getting more customers to come to them and help in better friction on payment, et cetera, we do also offer that opportunity, and those are added revenue opportunities as well. So the better way to think about it is we're primarily doing it to increase engagement and to draw new users there, but I am 100% confident that, that also leads to more business opportunities for Spotify long term as we'll have more and more platform tools, whether that be advertising, whether it be payment options that we can offer or even in the future live rooms, et cetera, that we can offer via the platform. I think all of those are exciting new revenue possibilities.

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Bryan Daniel Goldberg
Head of Investor Relations

And actually, it looks like Mario has a follow-up on this one. With the Greenroom soft launch in mid-June, can you explain why you decided to create a separate app for the live audio experience versus embedding it within the core Spotify app?

Daniel G. Ek
Founder, CEO & Chairman

Yes. I mean the origins of this is an acquisition we did earlier in this year, and I'm actually very proud of the team. We pretty much made the acquisition a quarter later. We're able to incorporate it into Spotify. You have a consistent refresh of the product, stabilize it for a size, Spotify-sized audience, et cetera. That's very much the reason why this is sort of a separate app. And I think you should expect there will be more and more tie-ins to the main Spotify app, too. And obviously, we'll leverage our existing distribution on Spotify, too.

But this feels like a great way to learn, experiment and iterate much faster than if we had to wait for a full-on integration into the main app, given the difference in the creator and consumer experience.

Bryan Daniel Goldberg
Head of Investor Relations

Okay. We've got another question from Ben Swinburne. You called out a revenue mix shift towards podcasts, among other things, benefiting gross margins. Previously, you had discussed podcast investments this year as a greater drag versus last year. Has something changed? Is the business now at a scale that it should drive gross margins going forward?

Paul Aaron Vogel
Chief Financial Officer

Yes. So a big chunk of that is a couple of things. One is revenue exceeded expectations on the podcasting side, led both organically as well as the acquisition of Megaphone and some of the inventory for Jerry and others, which was super impactful.

As Daniel mentioned, its opening podcasting revenue growth was up 627%. It was actually up close to 700% on an FX-neutral basis. On an organic basis, it was up almost 200% FX-neutral. So the revenue growth there was better than we expected, which led to better margins on that side. On the investment side, I would say it was in line, maybe a little bit lighter than we thought in terms of the quarter. That has more to do with just quarterly, say, variances with respect to content spend than it does any shift in terms of that overall investment we'll make for 2021, there's some of the shift got pushed out to the back half of the year. But in general, it was really led by just the leverage you get on having more upside on the podcasting revenue side.

In terms of how it drives gross margins going forward, I wouldn't necessarily say it's an inflection, I'd say it's a strong indicator of where we can go when advertising is strong and where we can go with the leverage on the podcasting side over time. We're going to continue to invest in the business, but I'm super pleased with how we performed in the quarter.

Bryan Daniel Goldberg
Head of Investor Relations

Okay. Next question on Rich Greenfield, also related to podcasting. We sense a shift in your podcast strategy from studio content that's available on all podcast platforms to high-profile exclusives like Joe Rogan, Alex Cooper, Dax Shepard, both in the U.S. and around the world. What's changed with your strategy?

Daniel G. Ek
Founder, CEO & Chairman

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Rich, I believe happy birthday, by the way. Yes. I don't think really anything has kind of changed. I think we have been experimenting with Wintering, we have been experimenting with Exclusive. And we've said for quite a long time that, obviously, we want more and more of the listening to happen only on Spotify.

So it's been kind of more of a natural evolution to drive it towards that end. I do think, again, from a strategy perspective, we are very much aiming to be a very open platform all along. And the most important job for us is to be a great partner to all the creators that we have in the ecosystem. So I don't think it rolls out and say that we would only do exclusives hard on. I think you're going to see us do many different types of deals. But where possible, we would obviously opt to take it fully exclusive. But we're going to be very opportunistic about that going forward.

Bryan Daniel Goldberg
Head of Investor Relations

All right. Next question from Mike Morris, another one on gross margin. What are the factors that drove 2Q gross margin above guide to the 26.5% result that are not expected to recur? Or said another way, what are the incremental headwinds anticipated in the second half of the year, given that the high end of third quarter and fourth quarter guidance is below the 26.5%?

Paul Aaron Vogel
Chief Financial Officer

Yes. So let me just unpack gross margins in the quarter in general because -- so we reported a gross margin of 28.4%, and we've talked about sort of more of an adjusted organic number of 26.5%. So the delta between those 2 was the reversal of some publishing accruals. There were onetime in the quarter, but I will say if you think about what we had done, we take a very conservative view of how we play publishing globally, where sometimes it's a little bit of a challenge to make sure you're paying people.

So we tend to accrue at rates that are even higher and more conservative than we need, and as we're able to get comfortable that we're paying the right amounts, we reverse those accruals. And there's been some work in Europe in particular to get this accomplished in a way that was satisfactory for everybody. We can get into the details offline with the IR team, if you'd like.

But so in every quarter for like the last 2 years, we've actually had about 20, 30 basis points of a hit to gross margin that we haven't necessarily called out because we were accruing more than we actually potentially might have to pay out to be conservative. We now feel comfortable about the proper payout so we're able to reverse that accrual, and that was the big 190 basis point gain there. The rest is that's about 2/3 of the upside relative to expectations. The rest of it was a couple of factors. One I mentioned, which was the better revenue on top of podcasting, which helped. We did benefit on some of the other cost of revenue a little bit more than we thought, so payment fees, streaming delivery, customer service, those types of things, where we got a little bit better leverage than we thought. So the team has done a really good job on those angles. And so it's really been a combination of the better revenue growth on the one hand, which helped on the margin side and then also on the other cost of revenue side.

In terms of going forward, so now that, that accrual has been reversed, that actually gives us a benefit moving forward, it's about EUR 20 million or so a year. So that will help in terms of a positive. And then the negatives are, as I said, there's always some seasonality on the content side, so there'll be potentially more spend on the content in the back half of the year than the front end of the year, and we're not expecting quite the same leverage on some of those other costs of revenue that we saw in Q2.

Bryan Daniel Goldberg
Head of Investor Relations

All right. Next question from Doug Anmuth. MAUs have been light the last 2 quarters, and it usually takes 12 to 18 months to convert to a premium sub. Does that slower top of funnel growth create premium sub risk in future periods?

Daniel G. Ek
Founder, CEO & Chairman

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Maybe I'll start here and then, Paul, you can add. So I think it's really important to contextualize that most of our lightness has really been due to an outperformance in 2020 more than anything else. And even despite all of that, as I said in some of my opening remarks and part of the reason why I feel really good about things, including, of course, all the leading indicators pointing positively is that we -- when you look at the sort of the last 2 years, we're still on track of outpacing those average -- the average growth of those past 2 years, we're still on track of outpacing that in this year.

So overall, top line MAU growth is healthy. We're just comparing it to an exceptional 2020, and that's clearly on us. We should have realized some of this variability going into the year, et cetera. But I feel really good about that. And then the second part of that is leading indicators, so looking super healthy; engagement, super strong; podcast engagement, super strong. So just overall, plenty of runway left and we're still early in going from linear radio to on-demand audio. So I feel really good about the sort of future path to 1 billion-plus users when it comes to Spotify.

Paul Aaron Vogel
Chief Financial Officer

Yes. And I would just add on top to highlight what Daniel said. If you look at the 2020 and '21 combined and think about the sort of average growth in MAU, it exceeds any other year we've ever done. And so again, we still feel really good that the overall sort of long-term slope of the growth in users is on track and healthy. And then on top of that, some of the variability has been in markets where we would expect they would have higher free users for a longer period of time anyway. There are countries, again, like India where our expectation is you're playing a long game there. And while we expect subscriber growth there and we're optimistic, you know it's going to take a long period of time. So one quarter here or there of growth is really not going to impact the overall trajectory of where we're expecting. So at this point, we don't think that it should impact any of our subscriber expectations for at a minimum this year, and then we'll talk about next year when we give guidance later on in the year.

Bryan Daniel Goldberg
Head of Investor Relations

Okay. We've got another question from Rich Greenfield, this one on Marketplace. Can you help us understand Discovery Mode? Walk us through an example of how it's being used and how that leads to 40% more listeners for artists utilizing it.

Daniel G. Ek
Founder, CEO & Chairman

Yes. So the first way to contextualize Discovery Mode is it's really a marketing tool for artists and labels. So the great thing here is that it's really a result-based marketing tool where you're really only paying Spotify if you find success. Hence, why we're highlighting the success from Discovery Mode here. So it's really a marketing tool where you opt in, you choose the program. You do see the downstream implications of how many more listeners were able to generate because of this, how many more downstream follows and subscriptions am I able to generate? And labels that are in this beta are now very, very active on it, and we're seeing a very healthy sort of retaining rates of new bookings through the tool as well.

And we're just looking at making that easier and smoother in this beta period. And hopefully, that will lead to even better results, which, of course, means even better adoption.

Bryan Daniel Goldberg
Head of Investor Relations

Okay. Next question comes from Steven Cahall. How should we think about your ARPU trajectory on a constant currency basis as you move through price increases? Should we expect ARPU to expand from here? Are there any plans for a base price increase, excluding Family or Duo? And then finally, are there any notable churn impacts from price increases?

Paul Aaron Vogel

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Chief Financial Officer

Yes. So I think I answered the first 2 already. So the gross intake churn, right on plan, if not slightly better in markets where we've changed prices. In terms of thinking about ARPU, yes, so we were up in Q2 on an FX-neutral basis very, very modestly, but we were up in the first quarter, I think, in 3, 4 years as far back as I looked where we had positive ARPU, so that's a great trend. We do expect ARPU on an FX-neutral basis to be positive in the back half of the year. That is a combination of the follow-through or the flow-through of the price increases, somewhat offset by some of the pressure we get from product mix and geographic mix. But in general, we do see ARPU being up modestly for the back half of the year, again, on -- I'm sorry, on an FX-neutral basis.

Bryan Daniel Goldberg
Head of Investor Relations

Okay. Next question from Matt Thornton. Can you talk about what inning you're in with your Marketplace strategy overall? The momentum in artist, label, publisher feedback around sponsored recommendations in Discovery Mode, and how much of an opportunity or focus is Live?

Daniel G. Ek
Founder, CEO & Chairman

Yes. So as a European, I'll try to do my best imitation of what inning is what. But if I'd make an educated guess, I would say we're probably in the second or third inning. I have no idea, but that should indicate early in the journey, but like not starting. So it's still much -- very much early days. We're past the point of launching this. We're getting results. We're seeing very, very strong sort of leading indicators around both results that partners that are participating in these programs are giving us and the feedback around how we should develop this even further. A lot of this just comes down to a lot of details around how labels and artists work together in understanding that and building out products that are bespoke to that.

And to an extent, that's probably one of the biggest sort of surprises for us is just how much data sharing between labels and agents and managers and building out almost like an enterprise suite for products where you have certain types of rights for certain types of people on the artist team, certain types of dashboards that should only be available for other types of teams. So a lot of that stuff is the stuff that we've now been building out over these past few quarters. And that's certainly like new, and that's what happens in the customer development phases. You're actively going in and learning more about the customer needs and understanding that. But the good news is, usually, when you're past that, you have a product that's highly tailored, highly bespoke to that type of audience. And I feel really, really good about the feedback that I'm seeing. Of course, as with anything that goes with our music partners, there's always a lot of controversy around almost anything we do at this point just because of the size we are for the industry and how much of an impact any single change that we do.

So even shifts in how our algorithms work massively impact almost all marketing teams on labels and artists, too. So we get a lot of feedback on even those types of changes, too. But I think that's just more of a sort of a natural evolution as goes to just the scale and the size of Spotify and how important we are for the music industry.

And then Live, again, I talk about this, but I think the most important thing really is we're very, very creator focused. And so Live, if you think about music creators, it is today a vast majority of all the income that normally flows through to an artist. So to the extent that Spotify can be helpful in driving Live outcomes, that's going to materially improve the earnings of an artist, and that obviously means that we can be an even more better partner to artists that can then drive preferences and get artists engaged even more on the Spotify platform. So it's a long term, very important focus of ours. To the extent that it will have an impact on the business side, that's not how we work. What we're doing really is we're focusing on the needs for the constituents and building amazing experiences. And thereafter, we tend to focus on how do we monetize that, too.

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So I just wanted to be clear upfront about that, that you should expect us to try to build amazing products that will get -- drive meaningful outcomes for our partners, and it's only at that point that it starts flowing through to business outcomes for Spotify, too.

Paul Aaron Vogel
Chief Financial Officer

And I would just add 2 things. One, just dovetailing to what Daniel said, everything about that is 100%, but it did actually impact gross margins, and I should have said that in my earlier comments. So there was a slight benefit, a slightly decent benefit to the gross margin outperformance. So I mentioned the better revenue and I mentioned the other cost of revenue. Marketplace was also another driver of improved gross margins in the quarter, and I should have mentioned that earlier. And then the second point is for those of you non-Americans on the call, that's about the 15th minute of a football game in terms of translating innings into football games.

Daniel G. Ek
Founder, CEO & Chairman

Great. Now I understand you. I like to use football too, by the way. I didn't call it soccer so appreciate it.

Bryan Daniel Goldberg
Head of Investor Relations

Okay. Next question comes from Doug Anmuth related to podcasting. How would you characterize the early returns on the Spotify Audience Network, the Open Access Platform and Streaming Ad Insertion? And what are the next steps to boost their utilization and monetization?

Daniel G. Ek
Founder, CEO & Chairman

Yes. So I think the early returns has been a great creator excitement, which usually translates to adoption. Some of these are more mature than others. So OAP, very early days, still building it out, rolling it out but great excitement among partners. SAI and SPAN, obviously, already are live today and even in the quarter, started impacting the results that we're seeing.

But for me, the most important thing, again, comes down to focus on our constituents that we're serving, providing great tools for them. When that happens, that then leads to better outcomes for Spotify. And maybe if I zoom out and just kind of give some context, I think really, the big thing you all as analysts should focus on is the shift of Spotify as a premium subscription music service to an audio platform. And that audio platform means that the business model fundamentally of Spotify now is very different than what it had been in the past. And you're starting to see that shift come through with ads. But I suspect over time, there'll be many more tools and services that we are driving and delivering here that will then all start impacting the overall results in different ways of the business going forward.

And so when I, in my opening remarks, focused on that sort of shift on velocity for product improvements and platform improvements, that is, for me, perhaps one of the most important leading indicators for me about sort of having that kind of impact, both for creators and consumers that then leads to tangible benefits. But you should really expect us to be more investing in the platform side of Spotify, which will then lead to lots and lots of really exciting business outcomes for Spotify in the future, too.

Paul Aaron Vogel
Chief Financial Officer

And then just I'll go -- Daniel at macro, I'll go a little micro here. If you look about at sort of SPAN and SAI, in particular, in terms of ad products in the quarter, as we mentioned, we had a really strong advertising quarter numbers, albeit expectations. We've seen through the implementation of some of these new products that sell-through rate was better than expected in the quarter and CPMs were also a little bit better than expected in the quarter. So we saw better utilization as well as better CPMs in the quarter.

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Bryan Daniel Goldberg
Head of Investor Relations

All right. We've got the next question from Hamilton Faber. Could you comment on recent press reports that Spotify is interested in becoming involved in live events? How easy would it be to scale in this space?

Daniel G. Ek
Founder, CEO & Chairman

Yes. And maybe by way of context, we've actually sort of depending on how you view it, been involved in the live space now for many, many years, both having as a feature the ability for artists to post upcoming concerts on the -- on their Spotify pages. But then subsequently, with our own playlist and brands like RapCaviar have been doing some shows with tens of thousands of people in attendance and having that all over the U.S. and U.K. and so on.

So we've been in this space for quite some time. Now I can't really comment on sort of product tests that we're doing. But as I mentioned in my previous comment, Live is a meaningful thing for many of our creators and it's something that we're excited about. And in the past quarter, as evident by some of the tests we did, we did some live concerts, digital live concerts and tested that and saw some really positive results from that and lots of excitement from our artist partners about Spotify helping out during COVID and providing more meaningful ways for them to monetize their fan base.

And I think that's in line with our strategy. To the extent that Live will have an even bigger impact, I think we're still an open platform. We want to work with as many partners as we can and provide as many opportunities for creators to create more ways to turn a listener into fans and turn fans into super fans and increase the monetization for those creators.

Bryan Daniel Goldberg
Head of Investor Relations

All right. Next question comes from Deepak and it's directed to Paul. Can you provide additional color on some of your assumptions in the second half outlook or guidance? You've renewed several promotional programs, but also have new ones such as TikTok. How are you thinking about contribution from these new programs, particularly as you potentially expand them into more markets?

Paul Aaron Vogel
Chief Financial Officer

Yes. I mean it's hard to talk about any one plan because we don't really do that. I would say, in general, we're excited about a number of new partnerships we have. They are all baked into our forecasts moving forward. Obviously, the newer ones are sometimes tougher to forecast because they are new and we don't have a track record or history in terms of success. I would say, in addition to the partnerships, which we're excited about, there'll be higher marketing expense in the second half of the year as well because we pulled back on some of that. So I think that's all factored into the guidance as well as kind of the trend lines we saw coming out of Q2 relative to the first half of Q2.

So that's all within the numbers with the obvious caveat that there's still a lot going on. There's still a lot of variability in a number of markets with respect to -- due to COVID. So we are forecasting and monitoring as best we can.

Bryan Daniel Goldberg
Head of Investor Relations

All right. Next question is from Mark Mahaney, also somewhat guidance related. What are those can you provide on the two-sided marketplace and your view on when these initiatives will become financially material to the company?

Paul Aaron Vogel
Chief Financial Officer

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Yes. So I think I said earlier, we are starting to see a benefit of the two-sided marketplace. It did have a positive impact on gross margin in the quarter. To Daniel's point, we're going to continue to launch out tools and services and products that help creators and artists and labels enable -- in order for them to sort of maximize their careers and their monetization. And so we feel good about it. I think a couple -- a while ago, we gave some numbers on Marketplace and where it's going. I would say we've sort of met or exceeded all of the expectations we had in terms of the Marketplace impact on gross margins.

Bryan Daniel Goldberg
Head of Investor Relations

Great. Next question is from Jessica Reif Ehrlich. Is the advertising strength you're seeing right now solely from the U.S.? In addition to a healthy ad market, how is Spotify Audience Network contribute to the growth? And should we anticipate faster growth as you roll out to additional geographies?

Paul Aaron Vogel
Chief Financial Officer

So the U.S. is our largest market when it comes to advertising. That's probably not surprising, and it did outperform. But all of our markets actually outperformed. So we had great growth in markets outside the U.S. And so as the U.S. goes, the advertising market for us will go because it is the largest part, but every segment we had, every geography outperformed their expectations, which is great. Spotify earnings definitely helped to contribute to growth. I think as I mentioned a little earlier, sell-through rates were better than expected. CPMs are a little higher than expected as well. So we're seeing the benefit of what we created in bringing the Megaphone inventory into the Spotify family, which has been great.

And geographies, more geographies will help. As I said, the U.S. is still predominant in terms of advertising in Europe is a pretty big second and everything else is pretty small after that. So I would say for the near term, it's really a U.S.-Europe story. Over time, more of those geographies will contribute.

Daniel G. Ek
Founder, CEO & Chairman

Maybe just as an addition here, we've talked a little bit about this before, but I'll say it again. We're mostly supply constrained and not demand constrained, meaning it's really more about us opening up more inventory than there being a lack of interest from advertisers in advertising with us. So the really big effort for us at the moment is just how do we unlock even more supply for all the demand that we have.

Bryan Daniel Goldberg
Head of Investor Relations

All right. We've got time for 1 or 2 more questions. The next one is going to come from Doug Anmuth regarding podcasting. O&E content is a small percentage of overall podcast on the platform, but it accounts for approximately 20% of total consumption. How do you think about the optimal mix of O&E content going forward?

Daniel G. Ek
Founder, CEO & Chairman

I don't think we have a particular number that we're striving towards. What we can see is that the O&E part of this tends to drive a bigger bump in engagement and in particular, translates into more new users. So whenever we've done an exclusive, we've tended to be able to convert more of the existing Spotify audience to also start listening to podcast on Spotify. And likewise, we've been able to get more people from outside of Spotify to try Spotify for the first time. So it's definitely been positive.

But as the mix goes, we're primarily focused on making Spotify the audio platform on the Internet. And we think that is the most important thing, and that's opening up more content. And as I mentioned, going from 8 million creators to 50 million creators is the primary focus. But obviously, the O&E part is a very helpful addition and it's helpful not just with our ability to get more people to listen to podcast, but also is a very attractive proposition for advertisers, as I think was evident in the quarter.

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Bryan Daniel Goldberg
Head of Investor Relations

All right. Thanks for the question, Doug. And actually, we are out of time for Q&A, so I'll turn it back over to Daniel for closing remarks.

Daniel G. Ek
Founder, CEO & Chairman

All right. Well, thank you so much for listening to this Q&A portion. And of course, MAU growth slowed during the significant COVID-related pull-forward we saw in 2020 and the impact of the uneven recovery in the first half of 2021. But we do anticipate a strong second half and our trend lines are looking very healthy. And of course, in the short term, some COVID uncertainty lingers and in the long term, the shift from linear to on-demand audio will only continue to accelerate and has more than 1 billion user opportunities left, I think it really reinforces our position as the audio browser of the world. And no one else is as laser-focused as we are in audio. It's all we've done for over 15 years, and that dedication is an advantage we leverage every day for creators, for fans and brand partners.

We're pushing ourselves to deliver at an unprecedented pace, and we're building out the infrastructure to go even further faster. And long term, I believe these product innovations will bolster MAU and subscriber growth, helping to track more and more users around the world and connecting them to creators they already love as well as the ones they are waiting to discover.

I'll be talking more about the quarter on our podcast, Spotify: For the Record, which will go live on our platform tomorrow. Thanks again, everyone, for joining us.

Bryan Daniel Goldberg
Head of Investor Relations
Okay. And that concludes today's call. A replay of the call will be available on our website and also on the Spotify app under Spotify Earnings Call Replays. Thanks, everyone, for joining.

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Spotify Technology S.A. NYSE:SPOT

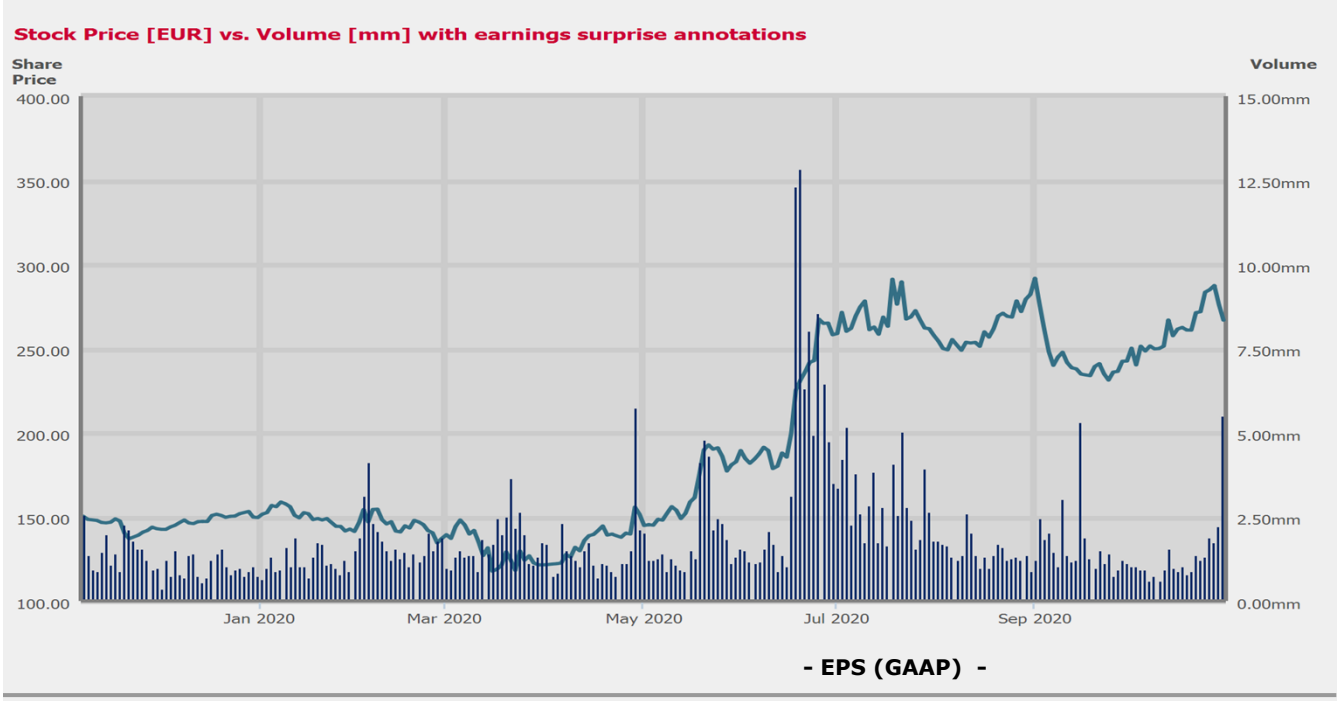
FQ3 2020 Earnings Call Transcripts

Thursday, October 29, 2020 12:00 PM GMT

S&P Global Market Intelligence Estimates

	-FQ3 2020-			-FQ4 2020-	-FY 2020-	-FY 2021-
	CONSENSUS	ACTUAL	SURPRISE	CONSENSUS	CONSENSUS	CONSENSUS
EPS (GAAP)	(0.54)	(0.53)	NM	(0.59)	(3.00)	(1.18)
Revenue (mm)	1999.65	1975.00	▼ (1.23 %)	2185.41	7938.19	9708.96

Currency: EUR
Consensus as of Oct-28-2020 9:10 AM GMT



- EPS (GAAP) -

	CONSENSUS	ACTUAL	SURPRISE
FQ4 2019	(0.19)	(1.14)	NM
FQ1 2020	(0.40)	0.00	NM
FQ2 2020	(0.47)	(1.91)	NM
FQ3 2020	(0.54)	(0.53)	NM

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Call Participants

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Bryan Daniel Goldberg
Head of Investor Relations

Daniel G. Ek
Founder, CEO & Chairman

Paul Aaron Vogel
Chief Financial Officer

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Presentation

Operator

Ladies and gentlemen, welcome to Spotify's Q3 2020 Earnings Call. [Operator Instructions] I would now like to hand the call over to your speaker for today, Bryan Goldberg, Head of Investor Relations. Thank you. Please go ahead.

Bryan Daniel Goldberg
Head of Investor Relations

Great. Thank you, and welcome to Spotify 2020 Third Earnings Conference Call. I hope everyone is continuing to staying safe.

Our team is again hosting this call remotely. Our CEO, Daniel Ek, is participating from Stockholm. Paul Vogel, our CFO, is at his home office in New Jersey. And I'm joining from New York.

We'll start with opening comments from Daniel. After the remarks, Daniel and Paul will be happy to answer your questions. [Operator Instructions]

Before we begin, let me quickly cover the safe harbor. During this call, we'll be making certain forward-looking statements, including projections or estimates about the future performance of the company. These statements are based on current expectations and assumptions that are subject to risks and uncertainties.

Actual results could materially differ because of factors discussed on today's call, in our letter to shareholders and in filings with the Securities and Exchange Commission.

During this call, we'll also refer to certain non-IFRS financial measures. Reconciliations between our IFRS and non-IFRS financial measures can be found in our letter to shareholders, in the Financials section of our Investor Relations website and also furnished today on Form 6-K.

And with that, I'll turn the call over to Daniel.

Daniel G. Ek
Founder, CEO & Chairman

All right. Hi, everyone, and thanks for joining us. So Q3 was a very strong quarter, surpassing our own expectations on several measures. And I think this is a testament to all the amazing contributions of the Spotify team who, in these uncertain times, remain focused on the needs of our creators, fans and partners around the world.

Monthly active users beat the top end of our guidance and subscribers hit the very top end of our range. And our service now reaches 320 million users and 144 million subscribers. The size of our total catalog increased significantly, and our advertising business returned to growth. And we also beat expectations in our newest markets where we're seeing growth continue to accelerate.

And I think this affirms our belief that there's a significant pent-up demand for Spotify around the world even in places where our service is yet to launch. These results illustrate the power of our business despite COVID and other related challenges across the globe.

And as a result of our performance this quarter, we have updated our Q4 guidance ranges to reflect increased optimism on where we expect to end the year.

It's also worth noting that we paid out more than EUR 1 billion to rights holders in every quarter in 2020. And I'm proud to say that we're on track to pay another EUR 1 billion-plus in Q4.

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In addition to sharing our results, I believe these calls are also a time to help frame where we're headed. And our team remains laser-focused on building the world's largest audio network. And while it's still early days, it's clear to us that our strategy is working.

So we know that when we reach more listeners, we're able to attract more creators to our platform. So with more reach comes more content. And with more content, especially content unique to Spotify, there comes more opportunities to monetize.

And that interplay is super important because it's really the foundation of our flywheel. And that's why we'll continue to accelerate faster with every new user and creator that comes on our platform.

Bottom line, as I look at the increase, specifically in reach that we're seeing this quarter, it gives me the confidence in our ability to monetize that growth. So to fuel the flywheel, you'll see us continue to invest in enhancing our user experiencing, furthering market expansion and develop and acquiring unique content for both new and established creators.

And related to this, you've seen us make a few big moves in launching new content, so I would like to shed some light on how it's going.

Our number of new podcasts increased over 20% and music releases are up 13% over the prior quarter. And we saw a strong positive reaction when Michelle Obama and Joe Rogan's podcasts launched during the quarter, and we're seeing great success with our Originals & Exclusives, which now account for more than 19% of all podcasts listening on the platform.

In addition, we're hard at work on new content development that will roll out in the months ahead. And one of the residual benefits of our time indoors is that many creators have turned back to what they do best, which is creating. And as a result, future music releases look very strong, too. And as we know, new music is now coming from artists like Billie Eilish, Drake and Sir Paul McCartney, just to name a few.

Another benefit of the investments that we made in our content and user experience is that Spotify listeners are enjoying greater value than ever before and we believe this presents 2 distinct opportunities. So one, with about 60% of Spotify subscribers starting out in our free tier and our outperformance on MAUs in 2020, we are confident that we have a long runway to continue to grow our subscriber base in the months and years ahead.

And two, long term, if engagement and/or our listener value per hour is high, it gives us the ability to selectively increase our price.

So here's how I think about it. While our primary focus remains user growth based on our maturity in certain markets and the increasing value we provide to our subscribers, including, of course, enhanced content, we've seen engagement, and more specifically, value per hour grow substantially over these past few years. And I believe an increase in value per hour is the most reliable signal we have in determining when we're able to use price as a lever to grow our business.

And while it's still early, initial results indicate that in the markets where we tested increasing prices, our users believe that Spotify remains an exceptional value, and they have shown a willingness to pay more for our service.

So as a result, you'll see us further expand price increases, especially in places where we're well positioned against the competition and our value per hour is high.

I would, however, throw in one big caveat: we will continue to tread carefully in these COVID times to ensure we don't get ahead of the market.

So to wrap it up, it was a really strong quarter. And as history has shown us, while we don't always nail the timing, we're usually right in predicting the outcome of our strategy. I continue to believe in the long-term value of each and every listener on Spotify and there are still billions of listeners that we've yet to reach around the world. Listeners who try Spotify tend to stay and they often convert to a subscriber. That is why our continued focus is on reaching more listeners as, ultimately, this will translate into long-term value for our investors.

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And with that, I'll turn it back to Bryan.

Bryan Daniel Goldberg
Head of Investor Relations
Thanks, Daniel. [Operator Instructions]

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Question and Answer

Bryan Daniel Goldberg
Head of Investor Relations

And our first question today comes from Matthew Thornton.

When you think about the two-sided marketplace longer term, do you believe that there is opportunity to monetize and play a role in accelerating the discovery, consumption growth of live and virtual events as well as memorabilia and merchandise?

Daniel G. Ek
Founder, CEO & Chairman

Yes. So long term, if you think about our marketplace strategy, it's essentially about having creators meet fans. And so there are 3 distinct components to this: one is to grow their fan bases, the second is to engage further in their fan bases and the third is monetizing those fan bases.

And we're going to create tools and services in all 3 of these categories: first, how you grow your fan base; second, in how you engage with your fan base; and then thirdly, in how you monetize it. And of that, of course, live is a very, very interesting component as is merchandise as well.

And we're early days in some of our experiments. But I do think the future of the platform certainly holds a lot more of those types of tools as well.

Bryan Daniel Goldberg
Head of Investor Relations

All right. Our next question comes from Michael Morris from Guggenheim.

How has -- excuse me, Joe Rogan performed overall since launching on Spotify? Any indication that listeners from other platforms are migrating to Spotify in advance of exclusivity?

Paul Aaron Vogel
Chief Financial Officer

Yes. So the -- JRE has performed really well. So far, it's exceeded expectations since it's been moved over to our platform. We obviously had some expectations of how -- what would happen now and then what would happen in the exclusivity period. So we feel really good about how it's performed. We've definitely had faster growth than we expected. And we're expecting another step-up when the podcast goes exclusive to us before the end of the year.

Bryan Daniel Goldberg
Head of Investor Relations

All right. Our next question comes from Richard Kramer of Arete.

Can you share some rough percentages of Premium Subscribers that are actually paying? We understand that number is around 60% with the remaining 40% under Family Plans.

Paul Aaron Vogel
Chief Financial Officer

Yes. So we don't break out the mix by product. As we've talked about, ARPU has come down and some of that has been product mix -- or most have been product mix. And so Family Plan has grown as a percentage of the overall user base and it is a decent amount of our users right now.

For us, as we've talked about a lot, we really look -- we're looking holistically, as Daniel mentioned, about growing overall users and growing overall subscribers. And are we able to grow them in a way that has a positive LTV-to-SAC, as something that's going to be long-term profitable for both us as well as the

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industry, to continue to add more users overall, to generate more revenue -- gross revenue for the entire industry and for Spotify. And so that's been a real big success for us.

And so with an LTV-to-SAC of 2.5 to 3x, which has been pretty steady since we've gone public, we feel really good about the product mix within our portfolio.

Bryan Daniel Goldberg
Head of Investor Relations

All right. Another question from Richard.

Spotify has now had 15 straight quarters of declining Premium ARPU even adjusting for FX. With the industry trend towards further bundling and towards saturation in developed markets, should investors expect any reversal of this trend in 2021?

Paul Aaron Vogel
Chief Financial Officer

Yes. So just sort of, I guess, dovetailing on my last answer. For us, it has been historically about really thinking about growing users and subscribers first before worrying about the monetization part, second. And as I mentioned, it really has been a focus on holistically as the LTV-to-SAC positive and staying in that 2.5 to 3 range.

That being said, well, let me back up. And with ARPU in the quarter, it was down 10%, it was down 6% on an FX-neutral basis, which was pretty much in line with our expectations, so the quarter did stay in line with where we thought it would be.

We did announce a little while ago -- a couple of weeks ago that we have raised prices in a few markets, continuing to test where it makes sense for us to potentially raise pricing. And for us, it's that balance. It continuing to have balance of growing users and subscribers. And in markets where we think we have the opportunity to potentially raise prices, we will. And we'll continue to test.

If you look back over the last 5 to 10 years, we've added a tremendous amount of value into this ecosystem, now having sort of 65 million to 70 million music tracks, 2 million podcasts. And we've done that without raising prices. So the value you're getting as a subscriber has definitely increased materially over that 5 to 10 years.

And so for us, it's really looking at different markets and different regions, looking at the overall streaming penetration in those markets, looking at our penetration in those markets, looking at the maturity of markets and thinking about where it may make sense for price increases and where it may not.

I would just reiterate what Daniel said in his opening comments. We'll be very cautious and careful around COVID in terms of how we think about any potential price increases moving forward. And again, we're still testing and learning. And anything we do will be very market-specific.

Bryan Daniel Goldberg
Head of Investor Relations

All right. Our next question comes from Eric Sheridan at UBS.

How should we think about podcast investments beyond 2020? Are you at the necessary scale? Or are further investments needed in areas such as tools for creation and measurement, exclusive content and local language content outside the U.S.?

Daniel G. Ek
Founder, CEO & Chairman

Yes. I mean, I actually just want to back up, and I think this kind of relates to the prior question as well about the sort of long-term opportunity.

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So one is we're aiming to be the #1 audio platform in the world. And that category in itself is huge. We're talking about billions of users and many, many millions of creators. And so to the extent that we are still cash flow positive and to the extent that the LTV-to-SAC is as favorable as we've seen in the past, we will continue to invest. And we still believe we're early days in our growth.

And so that's why the vast majority of our focus has been on growing that user base and growing the number of subscribers rather than sort of raising prices.

We are, however, adding that to the mix because, again, the overall growth in each and every market is the priority that we're having and that's the revenue growth. And we can grow that by either adding more users or raising the prices of the existing users that we're doing it in.

And so -- but because we really have this macro opportunity and we're still in the beginning even though we have 320 million monthly active users, we still think that there are billions more to go after in this ecosystem. And we're going to invest in better tools and that will increase the engagement. And as it increases the engagement, that increases our ability to monetize them as well. And if you add them into Marketplace and all these other things, you'll see monetization increase even further and that can drive up ARPU and gross profit for both us and the whole ecosystem as well.

Bryan Daniel Goldberg
Head of Investor Relations

All right. Next question comes from Matthew Thornton.

On pricing, you guys raised Family Plan price in 7 markets. What are you seeing in those markets, for example, penetration, engagement, FX, something else that led you to raise price? Do you expect similar actions in more markets in the fourth quarter and into 2021?

Paul Aaron Vogel
Chief Financial Officer

Yes. So I guess I'll just reiterate what I said in the last question, which is, for us, it's about looking at each market individually; looking at overall streaming: streaming growth, streaming penetration, our market share there, our position in those markets; and being smart and selective about where we think it made sense.

So that's where it was for those 7 markets. They're also sort of geographically different. So ways to kind of test and learn and see how the impacts of those price increases evolve.

Again, we've done it selectively. We did it in Norway a little while ago. We did it in New Zealand a little while ago. So we have some early learnings of what happens there. No indications yet in terms of any impact on retention or churn or engagement or new subjects, too early to tell. But again, given how we've been smart about there effectively in the past, we feel pretty confident about the markets we've changed so far.

Daniel G. Ek
Founder, CEO & Chairman

I would just add is an addition, Norway, we did quite a while ago and we do know that it had no impact whatsoever on our -- negative impact, I should say. So that gives us confidence.

We don't have a lot of data on these recent market launches that we have that's mature yet. But it's looking very good. So I think this kind of adds to our optimism and the framework that I outlined in the opening remarks about the value per hour, which is the thing that we're looking at as we look at -- to our future ability to raise prices.

Bryan Daniel Goldberg
Head of Investor Relations

All right. Next question from Richard Kramer.

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Does Spotify get any revenue from hosting podcasts where ads are sold by the content owner/creator?

Paul Aaron Vogel
Chief Financial Officer

So the short answer is no. Obviously, we sell the ads for things that we own or exclusively license. We don't take any revenue for things that just sort of gets passed through on to our platform.

That being said, Daniel mentioned in his opening comments that, on a trailing 30-day basis, 19% of our podcast MAU now engages with their own O&O content. And so to the extent that, that continues to move up on our platform, it gives us even more opportunity to monetize.

Bryan Daniel Goldberg
Head of Investor Relations

All right. Our next question comes from Justin Patterson.

How do you think about TikTok's influence on the music industry? What, if any, traits from TikTok can you layer into your business?

Daniel G. Ek
Founder, CEO & Chairman

Yes. TikTok is a great discovery vehicle for music as it is for a lot of cultural memes that's going on in the world today. I, obviously, like many others, are fascinated with the growth of it and fascinated with the creative expression from creators on that platform and really the whole kind of remixing culture, I would say.

Now that said, related to Spotify, again, our focus isn't so much on making the average user a creator that many of the social platforms do. We instead want to add superpowers to the people who want to be professional creators and that's kind of our focus.

But to the extent that we're looking at something like TikTok, it is more about giving our artists, looking at what they're doing on that platform and making sure we provide more creative ways that allows them to express themselves on our platform, too.

And we have been trying out a number of these things, music and talk being the most obvious example that we launched more recently. But there has also been music stories as a way for creators to talk about their content and their expression. Katy Perry made a great one more recently that I'd really encourage you guys to check out.

Bryan Daniel Goldberg
Head of Investor Relations

All right. Our next question comes from Rich Greenfield.

Can you talk about the controversy created by the Joe Rogan podcast? And how are you handling this with your employees?

Daniel G. Ek
Founder, CEO & Chairman

Yes. Again, overall, I would just say, we have millions of creators on the platform and almost 70 million pieces of content. And the most important thing for us is that we -- anything we do on our platform is consistently applying those policies. So we have a content policy. It's openly available, anyone can look at it. We obviously review all the content that goes up. And it doesn't matter if you're Joe Rogan or anyone else, we do apply those policies.

But it's important to note that this needs to be evenly applied, no matter if it's internal pressure or external pressure as well, because, otherwise, we are a creative platform for lots of creators and it's

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important that they know what they expect from our platforms. If we can't do that, then there are other choices for a lot of creators to go to. So that consistency is super important in terms of our messaging.

Bryan Daniel Goldberg
Head of Investor Relations

All right. Our next question comes from Eric Sheridan.

Can you provide more granularity on the recovery in advertising trends? Is it a broader array of advertisers engage with the platform? Is it a recovery in overall ad budget trajectory versus earlier this year? Can you quantify the exit rate in September that you referenced in the shareholder letter?

Paul Aaron Vogel
Chief Financial Officer

Yes. So the recovery was pretty broad based. If you look at it by the different products we sell, our direct business was pretty strong and sort of in line with our expectations and it improved pretty significantly from a pretty significant downturn in the prior quarter due to COVID.

We've seen programmatic grow and was in line with expectations.

And we saw particular strength on the Ad Studio side, which is our self-service tool. And podcasting was up pretty significantly year-on-year as well.

So it was kind of -- that's where the breakdown of how advertising recovered. And we do feel good about where the quarter was and it did perform a little bit above expectations.

When you think about the trajectory coming out of September, again, pretty strong. We feel good about where it was. We were -- had positive advertising growth in all 3 months of Q3 and it built upon itself within the quarter.

And I would say, while we don't explicitly guide to both Premium or advertising revenue, our expectation is that Q4 advertising revenue will grow faster than it did in Q3.

Bryan Daniel Goldberg
Head of Investor Relations

All right. Another question from Richard Kramer.

How long do you anticipate until the two-sided marketplace effort covers its costs?

Daniel G. Ek
Founder, CEO & Chairman

Do you want to start with that one, Paul?

Paul Aaron Vogel
Chief Financial Officer

Yes. I'm not sure how to answer that since we don't actually break up the profitability or the cost of any of our businesses that way.

I would say, at a high level, we feel really good about the two-sided marketplace in general. We feel good about the trends through the first 9 months of the year. And beyond that, I'm not sure how to comment. But I'll maybe turn it over to Daniel to talk about the Marketplace growth in general.

Daniel G. Ek
Founder, CEO & Chairman

I think the metric that we evaluate our investments over is in whether or not the traction they have in the Marketplace. And to that extent, on the Marketplace side, what I'm encouraged by is that we're obviously

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seeing a tremendous uptick in our sponsored recommendations. So it's up 76%. And more importantly, it's retained over 74% of the customers that experimented with the format from the quarter before.

So that's a strong engagement metric and it shows that we're providing a lot of value to the ecosystem. And that, combined with the growth of the number of creators that are using that, gives us the confidence that this will be a great thing for the music industry and a great thing for Spotify in the long term.

Bryan Daniel Goldberg
Head of Investor Relations

All right. Next question from Brian Russo of Crédit Suisse.

Can you help us quantify how much of your advertising revenue is related to podcast listening versus music and how different the growth rate of podcast-related advertising is from your overall advertising revenue growth?

Paul Aaron Vogel
Chief Financial Officer

Yes, we don't break it out that way. I would say podcast revenue was a significant driver of growth in the quarter. It was up obviously, I would say, very significantly from last year. So year-over-year growth in podcasting was very, very strong.

I think we feel really good about podcasting in general. I think, Q3, if my memory serves me correct, had about 2x the number of podcast advertisers in Q3 than we did in Q2. And the retention among those advertisers was very high between the people who advertised in Q2, who advertised in Q3. We've seen big upfront podcast media buys as well.

So in general, the traction of podcasting is strong, both from a revenue standpoint, from a retention standpoint and then from a growth in the number of podcast advertiser standpoint.

Bryan Daniel Goldberg
Head of Investor Relations

All right. Next question from Eric Sheridan.

You've cited a stronger-than-expected Russia launch and a successful India marketing campaign. How has your approach to market launches and/or stimulating user acquisition in emerging markets evolved over the past few years? And what that might mean for medium-, long-term growth prospects?

Daniel G. Ek
Founder, CEO & Chairman

Yes. I mean, overall, it's an evolving Toolbox is what I would say. So I'll just give you one example.

In the western world, we tend to focus a lot on sign-ups by e-mail. In many of these emerging markets, you can't do that. It's all about phone numbers and the ability to interact with already existing services like WhatsApp and others to drive growth.

So whether we're extending the Toolbox and it adds value and amortizes over the whole base like, for instance, our WhatsApp integrations or Instagram integrations, or for instance, the adding the sign-up flow to involve signing up via your phone number instead of an e-mail, all of those are sort of small changes and tweaks that we're adding that then gives benefits across the base globally. And so we continue to do that.

And then the separate thing that we are doing is that, because of our platform and our knowledge of culture and the team that we hire on the ground, we really focus on getting the cultural aspect right. So we invest a lot in understanding that and spending that time. And you see that very, very clearly when it goes right, such as the Russia launch, where you saw us not only like many international players get the international content right, but you saw people, also to a wide degree, getting the local content right, too.

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So it's the combination of those things, sort of macro learnings, but more importantly, I would say, adding more tools in the Toolbox, which is something that we've been doing over these past years that then compound, making us better and better and better as we launch new markets. And so I'm very encouraged by that.

But the big surprise that I do want to sort of address for all investors is that there seems to be a lot of pent-up demand for Spotify in markets that we haven't launched in and I think Russia is the great existence proof of that. And that has surprised even us internally. We were very optimistic about the launch, but it exceeded our wildest expectations. So that's super encouraging, and that gives us even more reinforcement as we go and launch the rest of the world.

Bryan Daniel Goldberg
Head of Investor Relations

All right. Our next question comes from Josh Le of Covenant Capital.

Your churn rate has been declining due in part to low ARPU. How do you think of the balance between ARPU and churn? At what churn rate would you raise price?

Paul Aaron Vogel
Chief Financial Officer

Yes. So I think it's obviously all tied together, right? We have a number of products that are -- have very high retention that have helped to lower churn over time. Our Affinity plans like Family Plans and Student plans have really done a good job from that standpoint as we've talked about, not to sort of repeat myself again. But all of what you're talking about gets into that LTV-to-SAC calculation, and it's all about thinking about how are we growing overall revenue for the long term? How does that impact the overall churn and retention over the long term? And what's the maximum amount of sort of gross profit dollars we're going to get on a user over that period of time? And that's sort of what we're thinking about.

And so your churn has come down for a couple of reasons -- or I guess, a number of reasons. Obviously, the product continues to get better. So that's number one. Number two, it's just as you get bigger, the number of users you've had for a longer period of time -- you have more users who are on your platform for a longer period of time, which naturally helps churn when you have a product like ours, which is great. And so for us, it is combining that balance.

And as we talked about before, you're looking at the ability to continue to grow users and continue to grow subscribers over the long term and to get to the 1 billion-plus users that our long-term target is looking after and balancing that with what's the right pricing for that.

Daniel G. Ek
Founder, CEO & Chairman

I would just also add as I think the important mental model to look at this is a ladder. So we start off where users, in many cases, are in either in a legal environment or in a much lower monetized environment like traditional radio in the U.S. for creators.

And we then move them into our free tier. Most of them don't wake up thinking I'm going to pay $10 a month for music. There are very few of those customers around that have that mindset.

So we start getting them into the service. They like the service. They enjoy the service. Then whether it's a Family Plan or an introductory offer or just the fact that they love the service that gets them to upgrade to one of our plans, that's all good and great.

But then what happens as they get to that plan and they get even more benefits, the ad-free environment, even more platforms where Spotify becomes available like cars and Sonos and a bunch of other things, that adds to the experience and you're spending more and more and more hours on Spotify. And that's the value per hour metric that I was referencing in my introductory remarks.

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And the more hours you're spending, then the more value you're deriving from Spotify. And we're seeing a clear correlation with that and our ability to then later on raise prices.

But the key here is to really kind of look at the balancing act for overall growth. That is what we're focusing on. So to the extent where we focus on the top of the funnel to grow that, that's obviously the most long-term beneficial. But in some markets that are more mature, we can also add the later part of that, which is focusing on the ones that are already in the funnel and raising prices for them.

So it's that balancing act that we need to play all the time. But I would want to say, think about that mental model of the staircase and the ladder. And we are constantly in various stages in various markets on that. And even among certain demographics in an existing market, we may be at various stages in that ladder, too.

Bryan Daniel Goldberg
Head of Investor Relations

All right. We've got a follow-up from Josh Le on pricing.

What could be the impacts of Apple's bundle to Spotify's pricing?

Daniel G. Ek
Founder, CEO & Chairman

Well, I think the primary impact, one, I would start off by saying we haven't noticed any impact. And I think that's evident by the quarter we had. But to the extent that there is an impact, it's obviously going to reinforce their ecosystem. So if you're already bought into the Apple ecosystem fully, this gives you an even further reason to stick with that ecosystem and double down on that.

Now that said, what we're actually finding is most customers aren't in just one ecosystem. Because most of our competitors, by the way, are the ecosystem competitors like Google or Amazon or Apple at this point. And they're all trying, obviously, to create as many incentives as possible to get customers to stay within one ecosystem. And what we're finding is, more and more, the customers are actually experimenting across many different ecosystems. So they may be an Apple iPhone user, but they may have an Android auto car or they may have an Alexa device in their homes. So they're across many of these different ecosystems.

And this is where our ubiquity strategy is so important because we play very nice on all hardware, regardless of if it's Google's devices, Apple's devices or Amazon's devices. So I think this is a key sort of competitive difference between us and the normal ecosystem players whose real business model is to just to reinforce the ecosystems that they're already in.

Bryan Daniel Goldberg
Head of Investor Relations

Okay. And the next question comes from Richard Greenfield.

Advertising is still less than 10% of your revenue despite how fast you scale the MAUs globally. What do you think the long-term revenue mix looks like?

Daniel G. Ek
Founder, CEO & Chairman

You want to go first, Paul, or do you want me to take that?

Paul Aaron Vogel
Chief Financial Officer

I can go first. Look, I think we are very bullish and optimistic on the advertising opportunity for us at Spotify. I think we've talked about it, which should be north of 10%, I think. Could it be 20%? I think 100% it could. We have tremendous growth on the music side on overall MAUs and free music. And then you throw a podcast on top of it and the growth there, we think there's a lot of opportunity.

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I think, for us, the innovation we're bringing into the market and the ecosystem, I think is really going to be helpful. I think there's been very little innovation, particularly on the podcasting side in terms of how to better target advertising and allow creators to actually monetize their product in a much higher way. And I think our ability to help bring those tools and services into the ecosystem will be great for the overall growth of the business. It will allow creators to actually make more money off of their podcast. And I think it will benefit us as well.

So I think we still see tremendous opportunity for advertising to be a larger share of our overall revenue growth.

Daniel G. Ek
Founder, CEO & Chairman

My only addition, again, is our goal is to be the #1 audio platform in the world. Audio as a category is going to be absolutely massive. And I think the good news is, if you look at a comparison, I do think we have a cheat sheet. Just look at video. I think it's very evident that some of the growth in the ad platforms that you saw this quarter from the other players in the industry was focused on video ads.

And so as I look at that and I look at audio, we still have a lot of innovation to do on that format.

But it's evident to me that, at maturity, the business model will not be just about subscription for Spotify. It's going to be the combination of subscription, it's going to be advertising and it's going to be a la carte. All 3 of them in an interplay. And our goal is to try to grow into becoming the largest platform in that.

And I think you can add innovation on the ad side and you get into that level of monetization, which, if you think about it, from the off-line to online parallel, online usually is worse at the beginning. But then over time, as it sees more innovation on the stack usually following a big platform growth on user side, then monetization starts to catch up. And I think you should expect the same journey here. That's certainly what we're investing against.

Bryan Daniel Goldberg
Head of Investor Relations

Next question comes from Ben Swinburne of Morgan Stanley.

What drove the decision to raise prices in the markets you called out in the shareholder letter? Why these 7? Why Family Plan? What are the signals you're looking for in other markets to move to raise prices?

And what's your assessment of the risk competitors continue to discount more or subsidize in the case of Apple TV+ Free with Apple Music in order to take share?

Paul Aaron Vogel
Chief Financial Officer

Yes. I think it goes back to what I said earlier on. For us, it's a lot about looking at each market individually and thinking about where are they in the evolution of streaming? Where are we in terms of market share within those markets? How long have we been in those markets? What are the newer trends we're seeing?

To some extent, if you look at the markets we did raise prices in, they're somewhat diverse. It gives us some element of sort of testing and understanding of different types of markets, some larger ones, smaller ones and different geographic mix.

And we think there's -- why Family Plan? Obviously, we think there's a tremendous amount of value within the Family Plan. So we thought that was an area where there might be an opportunity where it would work in some markets.

And so we're really testing and learning. As we've mentioned earlier, we've done this in a couple of markets, and we'll continue to learn and iterate where we think it makes sense.

Bryan Daniel Goldberg

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Head of Investor Relations

All right. Next question from John Egbert at Stifel.

You're about 2 months into the nonexclusive addition of Joe Rogan to the platform. Can you talk about how the podcast has performed relative to expectations thus far? Are you reaching a large number of listeners that are also consuming music for the first time? Are people listening outside the U.S.?

Daniel G. Ek
Founder, CEO & Chairman

Yes. Overall, great success so far. I think the real test will come, however, when the podcast becomes exclusive at the platform. But we're very encouraged with the launch so far.

It's very much been an international hit, which may have been a little bit of a surprise. We thought maybe it will skew more U.S. than what it has. So I think that speaks to the appeal just of the platform that we have for someone like Joe Rogan, but also, of course, the appeal of his show that it has on audiences all around the world.

So we're encouraged with that. And in fact, we're encouraged with most of the Original & Exclusives that we've launched so far, of which I do want to just add as a caveat, like Joe Rogan launched in September. So these are recent numbers. And on the list for Q4, the slate looks just fantastic.

So I think you should be expecting us to do a lot more than what you've seen even so far. And I think once we summarize the year and certainly the next sort of 6 months, when we look back on it, I think you'll see that a part of the success will be Joe Rogan, but it's really a whole slate of number of different content pieces that are interacting and creating a much better experience on Spotify than what you can find on other platforms.

Paul Aaron Vogel
Chief Financial Officer

Yes. And I would just add just on top of that, the JRE is #1 podcast in a number of markets and some markets that are non-English-speaking as well. So we know that he travels really well globally.

Bryan Daniel Goldberg
Head of Investor Relations

Okay. Great. Next question from Kevin Rippey at Evercore ISI.

Can you discuss the factors that led to The Michelle Obama Podcast to be made available on platforms other than Spotify?

Daniel G. Ek
Founder, CEO & Chairman

Overall, it's -- I think it's important to talk about the fact that, in many cases, when we do deals and when they become available on the platform, we've done the deals sometimes even a year prior to the deals becoming available. And more and more so, our strategy going forward will be to make more and more of the content exclusive to Spotify. But in this particular instance, it was the early days and we made the decision to experiment and have it windowed by being available on Spotify first and then later make it available on the platform.

And we'll still experiment, by the way, I do want to say. But I think as a strategy, you should expect more and more of the content to go entirely exclusive like with Joe Rogan.

Bryan Daniel Goldberg
Head of Investor Relations

Okay. Another question from John Egbert at Stifel.

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Can you discuss the adoption and P&L impact of the two-sided marketplace tools relative to your expectations? Are you on track to meet or exceed the 50% growth target for gross profit from two-sided marketplace?

And has UMG's commitment accelerated adoption? Or has the cadence of album releases during COVID been a headwind?

Paul Aaron Vogel
Chief Financial Officer

Yes. So at a high level, we are still on plan to meet the expectations for the full year that we gave in terms of marketplace contribution to gross profits and nothing has changed there.

And then maybe I'll let Daniel talk about the UMG side.

Daniel G. Ek
Founder, CEO & Chairman

Yes. Again, it's still early days in terms of the UMG deal. But obviously, I think, this is fantastic for just as an endorsement for the Marketplace strategy and we're still ramping up that partnership and bringing more and more of UMG's inventory on to the marketplace. So that's still very much the focus, but I think it bodes really well for 2021.

And as I mentioned before, we have a 76% increase in unique participants on our products and a 74% retention. So I think that speaks well to the fact that people are enjoying this. It is becoming a bit more of a word-of-mouth where more and more creators and artists see this.

And again, to kind of take 2 steps back. The goal here is we -- in the Marketplace strategy, we want to do 3 things: we want to create more and more tools for artists and labels to grow their fan base on Spotify and then add more and more tools and services to enable them to interact with those fans and more and more tools and services that enable them to monetize those fans better than what they're currently doing. That is the strategy, and we're adding more and more tools and you should expect us to double down on that strategy.

Bryan Daniel Goldberg
Head of Investor Relations

Great. The next question comes from Steven Cahall at Wells Fargo.

We've seen a number of advertising companies speak to Q4 being sequentially worse for ad growth due to rising coronavirus cases. What's baked into your Q4 guide in terms of ad revenue or ARPU?

Paul Aaron Vogel
Chief Financial Officer

Yes. As I said earlier, we don't give specific guidance on Premium versus ad, but I did say we expect that the year-over-year growth in advertising in Q4 will be higher than what we saw in Q3. Obviously, there's a lot of uncertainty around COVID around a second or third wave. And so there's some conservatism in our numbers. We would hope, but again, there's a lot of uncertainty as well.

Daniel G. Ek
Founder, CEO & Chairman

And my only addition, of course, is that while, of course, we care about advertising, it's still a relatively small part of the overall revenue pool.

Bryan Daniel Goldberg
Head of Investor Relations

All right. The next question comes from Justin Patterson.

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Podcasts have been a meaningful investment area for the past 2 years. Can you discuss what you have learned during this time frame and how audience reach is translating into listening hours and subscriber conversion? What are the next levers to improve the user experience?

Daniel G. Ek
Founder, CEO & Chairman

Obviously, a tremendous amount of learnings in podcasting. Some that's translated incredibly well from music into audio. I think the most important was the core thesis we had as we started doing this was that we could serve users better by not just doing music, but actually adding podcasting as well, and that the net result would be that you would see a higher engagement and higher retention across both categories. That has turned out to be true. And I think that should give you a lot of encouragement as investors that the strategy is working.

Then in terms of all the other aspects, of course, like if you think about music, it's a 3.5-minute piece of content that you're selling. So a lot of -- it's not a huge investment for people to try out and a new song.

In podcasting, in many cases, it may be 0.5 hour to 1 hour's worth of investment to try a new podcaster. So the way we merchandise content, the way we recommend content, is entirely different in podcasting as it is for music. So that's still an area where we're developing a lot of learnings and trying a lot of things.

So for instance, we shipped a few quarters ago trailers as a way of giving people a snack by a way of discovering new shows. And we have many, many more experiments currently underway and many more things that you should expect us to ship to.

But overall, I think the key thing to look into is we are using the podcast stack now to give creators further ability to engage with their fans, music and talk being the primary example this quarter, where whether you're a podcaster now, you can all -- we know music is a huge use case for a lot of podcasters. But licensing has been a big problem. And because Spotify has music and podcast on the very same platform, we now have that benefit where podcasters can talk about music and incorporate that in their shows, and that's great.

And just similarly, we know a lot of music artists want to talk about the music that they're creating. And so music and talk works really well for them, too. So this is just another way where you can see a natural extension of this audio-first strategy playing out in the open. And you should look for more developments on those formats.

We've talked in the past about Polls as well being one of those things that we have experimented with. So many, many more things to enable more engagements between creators and fans.

Bryan Daniel Goldberg
Head of Investor Relations

All right. Great. And we are actually out of time for today's Q&A session. I'd like to turn the call back over to Daniel for some closing remarks.

Daniel G. Ek
Founder, CEO & Chairman

All right. Well, thanks, Bryan. Well, I'm really proud of our team and how well our business has performed over the first 9 months of the year. And as I said earlier, it's a real testament to our flywheel. And as we gain momentum, I strongly believe that you'll see us drive greater acquisition, retention, engagement and monetization, which is good for Spotify, good for our users and good for creators. And there's no doubt it's all the good for the entire audio ecosystem. And for that reason, as well as the continued outperformance of our business, I remain very optimistic.

For more on this quarter, by the way, listen to the Spotify: For the Record podcast, which will go live on our platform tomorrow morning. So that's a big plug for me to end the call.

Thanks again for joining us, and have a great day.

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Bryan Daniel Goldberg
Head of Investor Relations

Okay. Thanks again, everyone, for joining. The replay of the call will be available on our website and also on the Spotify app under Spotify Earnings Call Replays. Thanks again.

Operator
This concludes today's conference call. You may now disconnect.

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Are Podcasts Threatening the Growth of the Music Industry?

rollingstone.com/music/music-features/podcasts-destroying-music-businesss-potential-growth-926536/

Tim Ingham December 16, 2019

It's been a comfortable year for the major record companies – but alarm bells may be starting to ring in the distance.

Rolling Stone first reported in October that streaming revenue growth is slowing down this year at the world's biggest music rights company, Universal Music Group. Now, further number crunching on Music Business Worldwide shows that the same trend is true, collectively, across all three major record companies.

Meanwhile, the majors face a rampant threat from well-funded, new school operators – many of whom have nine-figure funds from private equity and venture capital backers in their wallets. These companies, including Merck Mercuriadis' Hipgnosis Songs Fund and Scooter Braun's Ithaca Holdings, plus the likes of Primary Wave, Reservoir and Round Hill, are paying big money to acquire classic songs/recordings made famous by Taylor Swift, Elvis Presley, Whitney Houston, Ed Sheeran and many more. They are outbidding major labels to win these assets – which explains why there's potential tension between Ithaca and

Universal (the former bought Taylor Swift's masters; the latter did not), and why Warner Music Group is now helping spend $650 million of Providence Equity Partners' money, rather than its own cash, on copyrights.

Despite these menacing forces in the major label world, the investment community at large remains steadfast in its positivity about music's future; Goldman Sachs, for one, thinks there will be more than a billion paying music streaming subscribers in the world by 2030.

And yet, that phrasing, *music streaming subscribers*, is now itself coming under threat, as music streaming services – particularly Spotify – morph into something else entirely.

Podcasts really matter to Spotify. The company has spent over $400 million on acquiring podcast content and distribution companies in the past 12 months.

The primary reason SPOT loves talk-content so much is financial; Spotify founder Daniel Ek let slip on an earnings call in February that Spotify believes podcasts can help it "shift [our] cost base from variable to fixed." In less investor-y speak, that simply means: *When people play music on our service, we have to pay out royalties; when people play podcasts on our service, we do not. So the more that people play podcasts instead of music, the more money we'll ultimately retain.*

Ek dropped a stat in that same Q4 earnings call in February that will echo through the ages for record companies: "We believe that, over time, more than 20% of all listening on Spotify will be non-music content, and we strongly believe that this opportunity starts with podcasts."

Ten months on, that "opportunity" is rapidly maturing – and eating into the bread and butter of record labels.

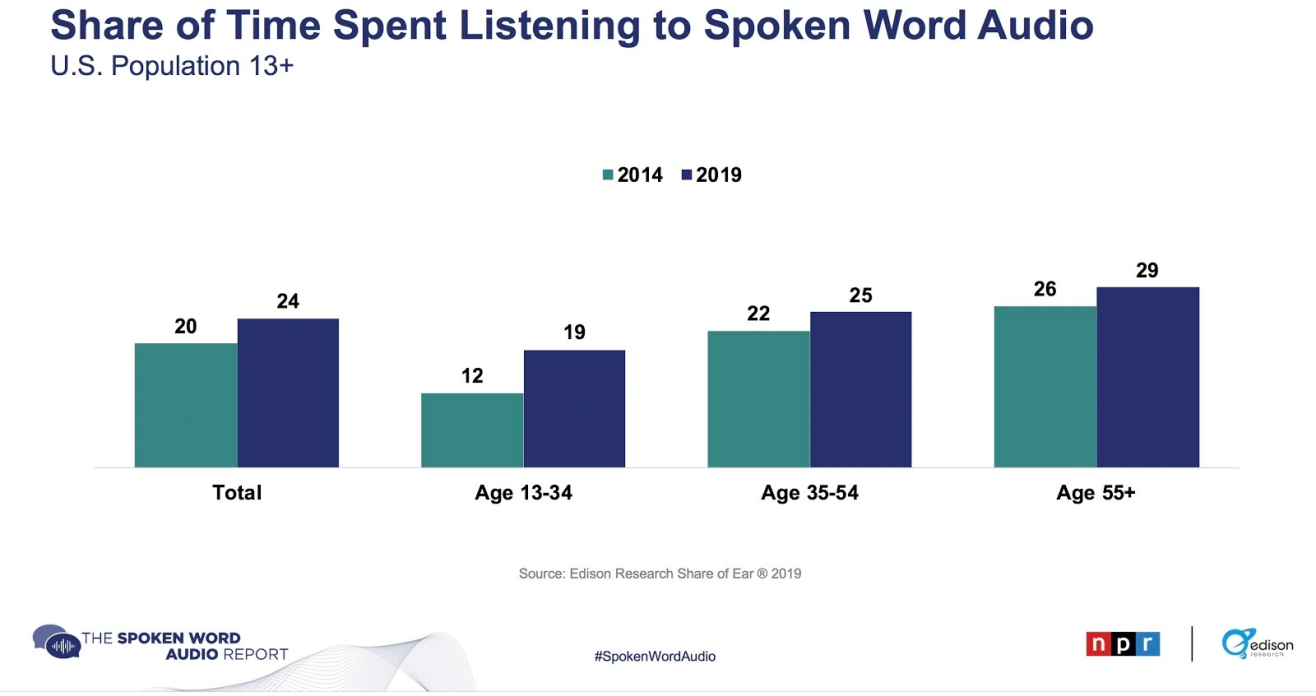
NPR published a fascinating report last month, based on Edison Research's serialized *Share Of Ear* survey. The results haven't been granted half enough of the attention they deserve in music biz circles.

More than 4,000 US citizens, all over the age of 13, were quizzed on the way they consume audio content today. It was discovered that, on average, Americans now listen to an average of four hours of audio content each day, across radio, music, podcasts and audiobooks.

The killer stat? In 2014, 80% of the US population's listening hours were directed towards music, with 20% dedicated to spoken word; in 2019, with the mainstream presence of podcasts erupting all around (not least on Spotify), these stats have changed: music's share is down to 76%, says the research, with spoken word growing to 24%. This represents a 5% market share decrease for music (from the 2014 percentage figure to the 2019 equivalent), and a 20% gain for spoken word.

In worse news for the music business, it's a trend that's happening across all ages – especially among young people. In the 13-34 year-old category, Edison found, listening hours were tilted 88% to 12% in favor of music vs. spoken word in 2014, but that balance had shifted to 81% to 19% in 2019.

To put that into context, let's say a teenager spends four hours a day listening to audio content; in 2014, they would have spent over 3.5 hours of that time consuming music; yet five years on, in 2019, this number has fallen by 17 minutes per day, by two hours every week, or by over 100 hours every year.



Other evidence is also emerging to suggest the music business has reason to fear the growth of podcasts.

IFPI, the global trade body for the recorded music industry – and therefore an organization that typically wants to show the record biz at its very strongest – released its own report, *Music Listening 2019*, earlier this year, based on a survey of 34,000 internet users worldwide. It proudly boasted that the average music fan now spends 18 hours a week listening to tunes, up from 17.8 hours in the prior year. In reality, though, that figure had only climbed by less than two minutes per day – literally, a shorter time than most songs – versus 2018, against a wider backdrop of increasing audio media consumption.

Meanwhile, according to Nielsen data published in September, the average time that self-proclaimed music fans in the U.S say they spend listening to music each week has actually fallen, from 32.1 hours in 2017 to 26.9 hours in 2019.

Over at Spotify, none of this is causing concern. The platform was delighted to tell its investors that in Q3 (the three months to end of September), total podcasting listening hours on its platform were up by 39% quarter-on-quarter, with the format being consumed by 14% of Spotify's 248 million Monthly Active Users [MAUs] – or approximately 35 million people.

According to Daniel Ek, on average, a music track is a "three-minute time commitment," while a podcast is an "hour's time commitment." Presuming that those 35 million people only listened to one podcast each in Q3 (and saw this "commitment" through to the end), that would mean that podcasts on Spotify were being listened to (obviously) for 35 million separate hours in the quarter; if those hours were filled with music consumption instead of podcast consumption, they would have resulted in 700 million plays of three-minute songs.

Assuming that Spotify's average blended recorded music per-play royalty payout sits somewhere around $0.0044, those potentially "lost" 700 million plays would be worth some $3 million dollars to record labels, or $1 million per month.

You can expect such statistics – clearly troubling for record companies and their artists – to continue to escalate. Daniel Ek said to Spotify investors in October: "We're now at 14% of our MAUs using [podcasts]. We still want that number to grow and we're still primarily focused on that, given all the good news [podcast consumption] leads to in the overall platform."

Whether or not you see podcasts' cannibalizing of music consumption on Spotify as "good news," or something rather scarier, will depend on whether you're a Spotify investor, a record label, or a musician.

The paradox at the heart of this story: What happens when the world's leading music streaming service becomes economically incentivized to encourage its customers to actually listen to *less* music?

Tim Ingham is the founder and publisher of Music Business Worldwide, *which has serviced the global industry with news, analysis and jobs since 2015. He writes a weekly column for "Rolling Stone."*

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Spotify Pays Over $100 Million for Rogan Podcast

The Wall Street Journal

May 20, 2020 Wednesday

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Body

Joe Rogan is taking his podcast exclusively to Spotify Technology SA in a licensing deal worth more than $100 million, according to a person familiar with the matter.

The licensing agreement is one of the largest such deals in the rapidly growing business of podcasts.

The comedian, television host and mixed martial arts commentator has become one of the most influential and lucrative podcast hosts in recent years, especially with his popular "vodcast" -- video podcast -- format on YouTube.

Mr. Rogan, 52 years old, had so far withheld his podcast from Spotify, saying the Stockholm-based streaming service doesn't pay enough and he had been generating significant revenue on other services such as Alphabet Inc.'s YouTube.

Mr. Rogan's full library, dating back 11 years, is to hit the streaming service on Sept. 1, and become exclusive to Spotify after that, before the end of the year. His video podcasts, which will also appear on Spotify, will no longer be available on YouTube.

Spotify has spent hundreds of millions of dollars acquiring entire companies, including Gimlet Media and Bill Simmons's the Ringer. The company has said its investment in podcasts is helping convert people who use its free tier into paying subscribers.

The deal with Mr. Rogan is a multiyear licensing agreement for an amount of time that couldn't be learned. It will likely be worth more than $100 million based on milestones and performance metrics, according to the person familiar with the matter.

Last year, the creators of popular true-crime podcast "My Favorite Murder" signed a two-year deal worth at least $10 million with E.W. Scripps Co.'s Stitcher unit, according to people familiar with the matter, in what was then one of the largest of its kind.

Launched in 2009, the Joe Rogan Experience has built an avid fan base discussing wide-ranging topics from neuroscience, sports and health to comedy and culture. His show consistently ranks at the top of Apple's podcast rankings, sitting at No. 2 on Tuesday.

Mr. Rogan's many sponsors include 23andMe, Dollar Shave Club and ZipRecruiter.

"We're going to be working with the same crew doing the exact same show," Mr. Rogan said as he announced the deal on his podcast Tuesday. "The only difference will be it will now be available on the largest audio platform in the world."

He also assured fans the podcast will still be available free on both Spotify's ad-supported and premium tiers.

The deal comes after a year in which Spotify, the largest music-streaming service by subscriptions, has made heavy investments in podcasting as it recasts itself as more than just a music service. The company sees exclusive and original podcasts as a way to differentiate itself from other music services.

It became the single biggest podcasting platform earlier this year, according to Midia Research.

U.S. ad revenue from podcasts rose an estimated 42% last year, to $678.7 million, according to the Interactive Advertising Bureau.

Dow Jones & Co., publisher of The Wall Street Journal, has a content partnership with Spotify's Gimlet unit.

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Notes

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Spotify strikes $60 million podcast deal with Barstool's 'Call Her Daddy'

Last Updated: June 17, 2021 at 11:14 a.m. ET
First Published: June 16, 2021 at 4:37 p.m. ET

By Weston Blasi

The 'Call Her Daddy' podcast that was previously part of Barstool Sports will be exclusively available on Spotify beginning July 21

Spotify has spent hundreds of millions on exclusive podcast deals in recent years.
AGENCE FRANCE-PRESSE/GETTY IMAGES

SPOT +1.80% **PENN** +8.86% **SPX** +1.45%

Listen to article
2 minutes

Spotify **SPOT,** +1.80% has officially purchased another podcast.

Alex Cooper and the widely popular "Call Her Daddy" podcast will be moving to Spotify in an exclusive deal worth $60 million, according to Variety.

Cooper, 26, announced the move on Instagram.

The podcast was previously part of Barstool Sports, but is leaving for Spotify's streaming service beginning on July 21.

The Penn National Gaming **PENN, +8.86%** -owned Barstool Sports did not respond to MarketWatch's request for comment on this story, but Barstool Sports founder Dave Portnoy addressed the departure on Wednesday.

"We wanted to keep her clearly; she's a monster," Portnoy said. "She was always going to make millions, she was that big. She has [Joe] Rogan-esque numbers."

See also: What is Juneteenth?

Spotify has signed many exclusive podcast deals in recent years to bolster its subscriber base. Those deals include agreements with The Ringer, Joe Rogan, and Prince Harry and Meghan Markle's Archwell Audio.

Spotify didn't stop there. In the past two years, the Swedish audio streaming platform also signed deals with Barack and Michelle Obama's Higher Ground Productions, as well as celebrity Kim Kardashian. The specific terms of both agreements are unknown.

"I'm incredibly thankful for everyone who has supported, helped, and been a part of Call Her Daddy," Cooper said in press release. "From its start three years ago, the show has always been about challenging the status quo and manifesting conversations that previously only happened behind closed doors."

Investing In Crypto | Oct 27 & Nov 3 | 1PM ET

MarketWatch and Barron's journalists will convene top experts in crypto and other financial pros to identify the opportunities and risks that lie ahead for investors.

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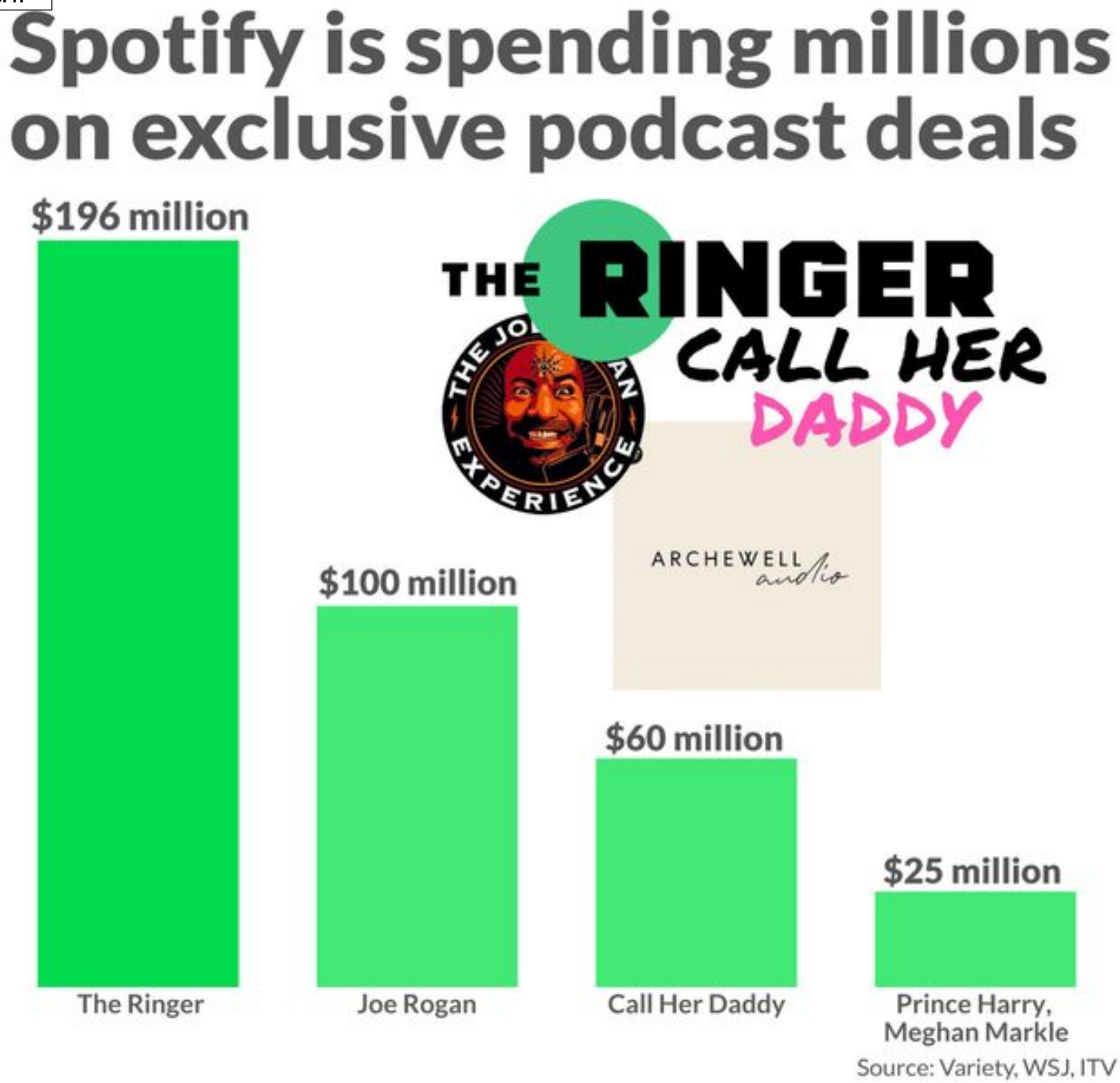
"Call Her Daddy" was the first podcast of its kind and has created a sex-positive space where women



control the conversation," Spotify wrote about the acquisition.

See also: Federal Reserve Chairman Jerome Powell's stock-market record is poor

"Call Her Daddy" is also the second-most-popular female-created podcast on Spotify, according to Spotify's EQUAL campaign.

In the past 3 months, Spotify's stock is down 16.6% while the S&P 500 **SPX**, +1.45% is up 6.37%.

COEX-
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CDC study finds side effects from COVID-19 vaccine booster are the same as after second shot, as experts urge unvaccinated to get their first shots

Weston Blasi

Weston Blasi is a reporter. You can follow him on Twitter @WestonBlasi.

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Spotify Acquires Sports-Talk App

The Wall Street Journal

March 31, 2021 Wednesday

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THE WALL STREET JOURNAL.
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Section: TECHNOLOGY; Pg. B4

Length: 446 words

Byline: By Anne Steele

Body

Spotify Technology SA is making its move into live audio by acquiring the sports-talk app Locker Room and its maker Betty Labs.

The deal values the company, initially backed by Lightspeed Venture Partners, and more recently by Google Ventures and Precursor Ventures, at around $50 million, according to a person familiar with the transaction. If certain targets are met, the value could climb closer to $80 million, this person said.

Locker Room has quickly become the spot for fan chatter around games and sports news, with the likes of Miami Heat forward Andre Iguodala and Philadelphia 76ers guard Seth Curry to podcaster Ant Wright and ESPN's Jeff Darlington dropping in for conversations as well. It filled a real-time, interactive void for sports fans left by the inability to gather in arenas, stadiums and bars during the Covid-19 lockdowns.

The purchase follows an explosion in demand for live audio apps amid the pandemic. Voice-based social networks, such as Clubhouse, Twitter Spaces, Water Cooler and Locker Room, allow users to converse spontaneously. They are an alternative to podcasts, but they are also a curated amalgamation of podcasts, live streams, conferences and radio. Comedians, artists and business leaders have flocked to these apps' virtual rooms to perform, chat, debate and network across topics and industries.

For Spotify, which has expanded into podcasting to position itself as the world's largest audio company -- not just a music-streaming giant -- the deal is a bet that live audio will last well beyond the pandemic.

"Our creators have been asking for a long time to be able to be more interactive with fans," Gustav Soderstrom, Spotify's research and development chief, said in an interview. "The most effective way is to actually speak to them live."

The Locker Room app is less than a year old. It launched in October of last year and has seen about 19,000 installs since then, according to app research firm Sensor Tower Inc. So far in March, it has seen about 8,000 installs, already representing 60% month-over-month growth from all of February.

Spotify plans to rebrand and relaunch the app with a broader focus across sports, music and pop culture. The company plans to keep it a stand-alone product, but users will be able to record live sessions and upload them to Spotify or podcasting platform Anchor and distribute them broadly. The streaming giant plans to tap its music and podcasting stars and users to facilitate programming with artists hosting album-listening parties or DJs spinning live sets before uploading them as playlists. Sportscasters and fans can weigh in around games.

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Spotify buys Podz to improve podcast discovery with AI – Android Central

oltnews.com/spotify-buys-podz-to-improve-podcast-discovery-with-ai-android-central

June 18, 2021

Related posts

Spotify's podcast ambitions continue to grow with the acquisition of Podz, a small company specializing in machine learning-based podcast discovery. The company announced the acquisition on Friday, noting that the Podz team will be part of Spotify's core development team, with visible changes appearing in the app by the end of the year. Android Central contacted Spotify for clarification on precise purchase value, Spotify did not respond in time for publication

Podz generates high-quality clips and previews that allow users to sample podcasts they might be interested in without having to commit to the initial time. Essentially, you get a trailer for a podcast to help you decide if you want it or not. Spotify wants to use this technology to generate interest in its 2.6 million podcasts.

VPN offers: lifetime license for $ 16, monthly plans for $ 1 and more

Talk to *TechCrunch*, M13 General Partner Latif Peracha and investor Podz said:

> Already, the average podcast listener subscribes to seven podcasts but follows almost 30 on Podz. The first signals make us optimistic about the team's ability to create a transformative product in the category.

Spotify has slowly built its mark as a podcast service over the past couple of years. In addition to launching as a podcast aggregator, the company recently started curating its own list of original podcasts. It may seem like a deviation from its original goal, but competitors like Apple and Google have joined in seeing music and podcasts as closely related. The acquisition of Podz could help Spotify to retain more customers on the podcasting side. If that is successful, then he can get more creators to create exclusives for his platform.

Besides its purchase of Podz, Spotify recently joined the audio chat phenomenon with its new Clubhouse competitor, Greenroom. This update is immediately deployed to customers.

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UNITED STATES
SECURITIES AND EXCHANGE COMMISSION
Washington, D.C. 20549

FORM 6-K

REPORT OF FOREIGN PRIVATE ISSUER
PURSUANT TO RULE 13a-16 OR 15d-16
UNDER THE SECURITIES EXCHANGE ACT OF 1934

For the month of April, 2019

Commission File Number: 001-38438

Spotify Technology S.A.

(Translation of registrant's name into English)

42-44, avenue de la Gare
L- 1610 Luxembourg
Grand Duchy of Luxembourg
(Address of principal executive office)

Indicate by check mark whether the registrant files or will file annual reports under cover of Form 20-F or Form 40-F.

Form 20-F ☒ Form 40-F ☐

Indicate by check mark if the registrant is submitting the Form 6-K in paper as permitted by Regulation S-T Rule 101(b)(1):

Yes ☐ No ☒

Indicate by check mark if the registrant is submitting the Form 6-K in paper as permitted by Regulation S-T Rule 101(b)(7):

Yes ☐ No ☒

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Spotify Technology S.A.

Interim condensed consolidated financial statements
For the three months ended March 31, 2019

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PART I – FINANCIAL INFORMATION

Item 1. Financial Statements

Interim condensed consolidated statement of operations
(Unaudited)
(in € millions, except share and per share data)

	Note	Three months ended March 31, 2019	2018
Revenue	**5**	1,511	1,139
Cost of revenue		1,138	856
Gross profit		**373**	**283**
Research and development		155	115
Sales and marketing		172	138
General and administrative		93	71
		420	**324**
Operating loss		**(47)**	**(41)**
Finance income	**6**	34	15
Finance costs	**6**	(156)	(154)
Finance income/(costs) - net		**(122)**	**(139)**
Loss before tax		**(169)**	**(180)**
Income tax benefit	**7**	(27)	(11)
Net loss attributable to owners of the parent		**(142)**	**(169)**
Loss per share attributable to owners of the parent			
Basic and diluted	**8**	(0.79)	(1.01)
Weighted-average ordinary shares outstanding			
Basic and diluted	**8**	180,613,539	167,778,952

The accompanying notes are an integral part of the interim condensed consolidated financial statements.

COEX-
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Interim condensed consolidated state ment of comprehensive income/(loss)
(Unaudited)
(in € millions)

	Note	Three months ended March 31, 2019	2018
Net loss attributable to owners of the parent		**(142)**	**(169)**
Other comprehensive income/(loss):			
Items that may be subsequently reclassified to condensed consolidated statement of operations (net of tax):			
Gains/(losses) on short term investments	**13, 19**	3	(1)
(Losses)/gains on cash flow hedging instruments	**13, 19**	(3)	1
Exchange differences on translation of foreign operations		4	(15)
Items not to be subsequently reclassified to condensed consolidated statement of operations (net of tax):			
Gain in the fair value of long term investments	**13, 19**	518	45
Other comprehensive income for the period (net of tax)		**522**	**30**
Total comprehensive income/(loss) for the period attributable to owners of the parent		**380**	**(139)**

The accompanying notes are an integral part of the interim condensed consolidated financial statements.

Interim condensed consolidated state ment of financial position
(in € millions)

	Note	March 31, 2019 (Unaudited)	December 31, 2018
Assets			
Non-current assets			
Lease right-of-use assets	**9**	430	—
Property and equipment	**10**	235	197
Goodwill	**11**	424	146
Intangible assets	**11**	54	28
Long term investments	**19**	2,299	1,646
Restricted cash and other non-current assets	**12**	70	65
Deferred tax assets	**7**	10	8
		3,522	**2,090**
Current assets			
Trade and other receivables	**15**	391	400
Income tax receivable		2	2
Short term investments	**19**	660	915
Cash and cash equivalents		966	891
Other current assets		52	38
		2,071	**2,246**
Total assets		**5,593**	**4,336**
Equity and liabilities			
Equity			
Share capital		—	—
Other paid in capital		3,834	3,801
Treasury shares	**13**	(198)	(77)
Other reserves	**13**	1,491	875
Accumulated deficit		(2,665)	(2,505)
Equity attributable to owners of the parent		**2,462**	**2,094**
Non-current liabilities			
Lease liabilities	**9**	555	—
Accrued expenses and other liabilities	**17**	1	85
Provisions	**18**	7	8
Deferred tax liabilities	**7**	61	2
		624	**95**
Current liabilities			
Trade and other payables	**16**	397	427
Income tax payable		4	5
Deferred revenue		273	258
Accrued expenses and other liabilities	**17**	1,298	1,076
Provisions	**18**	44	42
Derivative liabilities	**19**	491	339
		2,507	**2,147**
Total liabilities		**3,131**	**2,242**
Total equity and liabilities		**5,593**	**4,336**

The accompanying notes are an integral part of the interim condensed consolidated financial statements.

Interim condensed consolidated state ment of changes in equity
(Unaudited)
(in € millions)

	Note	Share capital	Treasury Shares	Other paid in capital	Other reserves	Accumulated deficit	Equity attributable to owners of the parent
Balance at January 1, 2018		—	—	**2,488**	**177**	**(2,427)**	**238**
Loss for the period		—	—	—	—	(169)	(169)
Other comprehensive income		—		—	30	—	30
Issuance of ordinary shares		—	—	4	—	—	4
Issuance of shares upon exercise of stock options and restricted stock units	**14**	—		39	—	—	39
Share-based payments	**14**	—	—	—	18	—	18
Income tax impact associated with share-based payments		—	—	—	1	—	1
Balance at March 31, 2018		—	—	**2,531**	**226**	**(2,596)**	**161**
Balance at December 31, 2018		—	**(77)**	**3,801**	**875**	**(2,505)**	**2,094**
Cumulative effect adjustment in connection with the adoption of IFRS 16	**9**	—	—	—	—	(18)	(18)
Balance at January 1, 2019		—	**(77)**	**3,801**	**875**	**(2,523)**	**2,076**
Loss for the period		—	—	—	—	(142)	(142)
Other comprehensive income		—	—	—	522	—	522
Issuance of share-based payments in conjunction with business combinations	**4**	—	—	—	13	—	13
Repurchases of ordinary shares	**13**	—	(121)	—	—	—	(121)
Issuance of shares upon exercise of stock options and restricted stock units	**14**	—	—	33	—	—	33
Share-based payments	**14**	—	—	—	27	—	27
Income tax impact associated with share-based payments		—	—	—	54	—	54
Balance at March 31, 2019		**-**	**(198)**	**3,834**	**1,491**	**(2,665)**	**2,462**

The accompanying notes are an integral part of the interim condensed consolidated financial statements.

COEX-
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Interim condensed consolidated state ment of cash flows
(Unaudited)
(in € millions)

	Note	Three months ended March 31, 2019	2018
Operating activities			
Net loss		(142)	(169)
Adjustments to reconcile net loss to net cash flows			
Depreciation of property and equipment and lease right-of-use assets	**9, 10**	17	9
Amortization of intangible assets	**11**	4	2
Share-based payments expense	**14**	26	18
Finance income	**6**	(34)	(15)
Finance costs	**6**	156	154
Income tax benefit	**7**	(27)	(11)
Other		8	1
Changes in working capital:			
Decrease in trade receivables and other assets		35	15
Increase in trade and other liabilities		155	70
Increase in deferred revenue		13	9
Decrease in provisions	**18**	—	(3)
Interest received		4	10
Interest paid on lease liabilities	**9**	(4)	—
Income tax paid		(2)	(6)
Net cash flows from operating activities		**209**	**84**
Investing activities			
Business combinations, net of cash acquired	**4**	(288)	—
Purchases of property and equipment	**10**	(37)	(6)
Purchases of short term investments	**19**	(104)	(271)
Sales and maturities of short term investments	**19**	383	430
Change in restricted cash	**12**	1	(4)
Other		(4)	(10)
Net cash flows (used in)/from investing activities		**(49)**	**139**
Financing activities			
Proceeds from exercise of share options	**14**	33	39
Payments of lease liabilities	**9**	(5)	—
Repurchases of ordinary shares	**13**	(126)	—
Other		—	4
Net cash flows (used in)/from financing activities		**(98)**	**43**
Net increase in cash and cash equivalents		**62**	**266**
Cash and cash equivalents at beginning of the period		891	477
Net foreign exchange gains/(losses) on cash and cash equivalents		13	(10)
Cash and cash equivalents at March 31		**966**	**733**
Supplemental disclosure of cash flow information			
Non-cash investing and financing activities			
Recognition of lease right-of-use asset in exchange for lease liabilities	**9**	27	—
Purchases of property and equipment in trade and other liabilities	**10**	25	4

The accompanying notes are an integral part of the interim condensed consolidated financial statements.

Not es to the interim condensed consolidated financial statements
(Unaudited)

1. Corporate information

Spotify Technology S.A. (the "Company" or "parent") is a public limited company incorporated and domiciled in Luxembourg. The Company's registered office is 42-44 avenue de la Gare, L1610, Luxembourg, Grand Duchy of Luxembourg.

The principal activity of the Company and its subsidiaries (the "Group," "we," "us," or "our") is music streaming. The Group's premium service ("Premium Service") provides users with unlimited online and offline high-quality streaming access to its catalog. The Premium Service offers a commercial-free music experience. The Group's ad-supported service ("Ad-Supported Service," and together with the Premium Service, the "Service") has no subscription fees and provides users with limited on-demand online access to the catalog. The Group depends on securing content licenses from a number of major and minor content owners and other rights holders in order to provide its service.

2. Basis of preparation and summary of significant accounting policies

The interim condensed consolidated financial statements of Spotify Technology S.A. for the three months ended March 31, 2019 and 2018 have been prepared in accordance with IAS 34 *Interim Financial Reporting* . The interim financial information is unaudited. The interim financial information reflects all normal recurring adjustments that are, in the opinion of management, necessary to fairly present the information set forth herein. The interim condensed consolidated financial statements should be read in conjunction with the Group's consolidated financial statements for the year ended December 31, 2018, as they do not include all the information and disclosures required in the annual consolidated financial statements. Interim results are not necessarily indicative of the results for a full year. The interim condensed consolidated financial statements are presented in millions of Euros.

Except for the first-time application of IFRS 16, *Leases* , described in Note 9, the accounting policies adopted in the preparation of the interim condensed consolidated financial statements are consistent with those followed in the preparation of the Group's consolidated financial statements for the year ended December 31, 2018. The adoption of IFRS 16 resulted in the derecognition of deferred rent liabilities of €90 million, the recognition of lease right-of-use assets of €396 million, lease liabilities of €541 million, lease incentive receivables of €37 million, and a cumulative-effect adjustment in accumulated deficit of €18 million on the condensed consolidated statement of financial position. There was no impact to the condensed consolidated statement of operations upon adoption. Except for the first-time application of IFRS 16, *Leases* , none of the new or amended standards and interpretations as of January 1, 2019 have had a material impact on the Group's financial result or position.

3. Critical accounting estimates and judgments

In preparing these interim condensed consolidated financial statements, the significant judgments made by management in applying the Group's accounting policies and the key sources of estimation and uncertainty, except those relating to business combinations noted below, were the same as those applied to the consolidated financial statements for the year ended December 31, 2018.

In business combinations, the Group allocates the fair value of purchase consideration to the tangible assets acquired, liabilities assumed, and intangible assets acquired based on their estimated fair values. The excess of the fair value of purchase consideration over the fair values of these identified assets and liabilities is recorded as goodwill. Such valuations require management to make significant estimates, assumptions, and judgments, especially with respect to intangible assets. See Note 4.

Estimates and judgments are continually evaluated and are based on historical experience and other factors, including expectations of future events.

4. Business combinations

Anchor FM Inc.

On February 14, 2019, the Group acquired Anchor FM Inc. (“Anchor”), a software company that enables users to create and distribute their own podcasts. The acquisition allows the Group to leverage Anchor’s creator-focused platform to accelerate the Group’s path to becoming the world’s leading audio platform.

The total purchase consideration was €136 million which consisted of €125 million in cash and €11 million related to the fair value of partially vested share-based payment awards replaced. The replacement of Anchor’s share-based payment awards with share-based payments awards of the Company has been measured in accordance with IFRS 2, *Share-based Payment* , at the acquisition date. The acquisition was accounted for under the acquisition method. Of the total purchase consideration, €126 million has been recorded to goodwill, €9 million to acquired intangible assets, €2 million to deferred tax liabilities, €4 million to cash and cash equivalents, and €1 million to other liabilities. The Group incurred €1 million in acquisition related costs, which were recognized as general and administrative expenses.

The goodwill represents the future economic benefits expected to arise from other intangible assets acquired that do not qualify for separate recognition, including expected future synergies and technical expertise of the acquired workforce. None of the goodwill recognized is expected to be deductible for tax purposes. The goodwill was included in the Ad-Supported segment.

The intangible assets acquired primarily relate to existing technology and have a useful life of 3 years. The Group valued the existing technology using the replacement cost method under the cost approach.

Included in the arrangement are €20 million of equity instruments granted to certain employees that have vesting conditions contingent on continued employment and are accounted for as equity-settled share-based payment transactions. Of the value of these instruments, €11 million is included in purchase consideration as discussed above, with the remaining amount of up to €9 million to be recorded as post-combination expense over service periods of up to four years, if not forfeited by the employees.

Gimlet Media Inc.

On February 15, 2019, the Group acquired Gimlet Media Inc. (“Gimlet”), an independent producer of podcast content. The acquisition allows the Group to leverage Gimlet’s in-depth knowledge of original content production and podcast monetization.

The total purchase consideration was €172 million which consisted of €170 million in cash and €2 million related to the fair value of partially vested share based payment awards replaced. The replacement of Gimlet’s share-based payment awards with share-based payments awards of the Company has been measured in accordance with IFRS 2, *Share-based Payment* , at the acquisition date.

The acquisition was accounted for under the acquisition method. Of the total purchase consideration, €148 million has been recorded to goodwill, €18 million to acquired intangible assets, €5 million to deferred tax liabilities, €3 million to cash and cash equivalents, and €8 million to other tangible net assets. The Group incurred €3 million in acquisition related costs, which were recognized as general and administrative expenses.

The goodwill represents the future economic benefits expected to arise from other intangible assets acquired that do not qualify for separate recognition, including an increase in content development capabilities, an experienced workforce, and expected future synergies. None of the goodwill recognized is expected to be deductible for tax purposes. The goodwill was included in the Ad-Supported segment.

The intangibles assets relate to trade name and content assets and were valued by the Group using the relief from royalty method under the income approach. This method is based on the application of a royalty rate to forecasted revenue under the trade names and content assets. The intangible assets have useful lives ranging from 2 to 8 years.

Included in the arrangement are payments that are contingent on continued employment. The payments are recognized as remuneration for post-combination services and are automatically forfeited if employment terminates. A total of up to €40 million of post-combination cash pay-outs will be recorded as compensation expense over a service period of up to four years.

For the three months ended March 31, 2019, revenues and operating losses of Gimlet and Anchor were not significant to the Group's condensed consolidated statement of operations.

5 . Segment information

The Group has two reportable segments: Premium and Ad-Supported. The Premium Service is a paid service in which customers can listen on-demand and offline. Revenue is generated through subscription fees. The Ad-Supported Service is free to the user. Revenue is generated through the sale of advertising. Royalty costs are primarily recorded in each segment based on specific rates for each segment agreed to with rights holders. The remaining royalties that are not specifically associated to either of the segments are allocated based on user activity or the revenue recognized in each segment. No operating segments have been aggregated to form the reportable segments.

Key financial performance measures of the segments including revenue, cost of revenue, and gross profit are as follows:

	Three months ended March 31,	
	2019	2018
	(in € millions)	
Premium		
Revenue	1,385	1,037
Cost of revenue	1,026	767
Gross profit	**359**	**270**
Ad-Supported		
Revenue	126	102
Cost of revenue	112	89
Gross profit	**14**	**13**
Consolidated		
Revenue	1,511	1,139
Cost of revenue	1,138	856
Gross profit	**373**	**283**

Reconciliation of gross profit

General expenditures, finance income, and finance costs are not allocated to individual segments as these are managed on an overall group basis. The reconciliation between reportable segment gross profit to the Group's loss before tax is as follows:

	Three months ended March 31,	
	2019	2018
	(in € millions)	
Segment gross profit	**373**	**283**
Research and development	(155)	(115)
Sales and marketing	(172)	(138)
General and administrative	(93)	(71)
Finance income	34	15
Finance costs	(156)	(154)
Loss before tax	**(169)**	**(180)**

Revenue by country

	Three months ended March 31,	
	2019	2018
	(in € millions)	
United States	559	416
United Kingdom	164	128
Luxembourg	1	1
Other countries	787	594
	1,511	**1,139**

Premium revenue is attributed to a country based on where the membership originates. Ad-Supported revenue is attributed to a country based on where the advertising campaign is viewed. There are no countries that individually make up greater than 10% of total revenue included in "Other countries."

6 . Finance income and costs

	Three months ended March 31,	
	2019	2018
	(in € millions)	
Finance income		
Fair value movements on derivative liabilities (Note 19)	—	2
Interest income	9	5
Other financial income	—	8
Foreign exchange gains	25	—
Total	**34**	**15**
Finance costs		
Fair value movements on derivative liabilities (Note 19)	(145)	(59)
Fair value movements on Convertible Notes (Note 19)	—	(78)
Interest expense on lease liabilities	(9)	—
Other finance costs	(2)	—
Foreign exchange losses	—	(17)
Total	**(156)**	**(154)**

7 . Income tax

The effective tax rates for the three months ended March 31, 2019 and 2018 were 16.2% and 6.0 %, respectively. Drivers of the Group's effective tax rate include permanent differences, withholding taxes, discrete benefit due to fair value gains, and unrecognized tax losses in certain jurisdictions. The Group operates in a global environment with significant operations in various jurisdictions outside Luxembourg. Accordingly, the consolidated income tax rate is a composite rate reflecting the Group's earnings and the applicable tax rates in the various jurisdictions where the Group operates.

For the three months ended March 31, 2019 and 2018, the income tax benefit of €27 million and €11 million, respectively, was due primarily to the recognition of deferred taxes as a result of the unrealized increase in the fair value of the Group's long term investment in Tencent Music Entertainment Group ("TME") , and non-tax deductible intangibles recognized through the acquisitions of Gimlet and Anchor .

Gross tax provisions were €2 million and €2 million as of March 31, 2019 and December 31, 2018, respectively. The gross tax provisions, if recognized, will result in a reduction of approximately €2 million to the provision for income taxes, therefore favorably impacting the Group's effective tax rate. The Group includes interest and penalties related to tax provisions within income tax benefit on the condensed consolidated statements of operations and income tax payable in the condensed consolidated statement of financial position. Interest and penalties included in income tax benefit were not material in any of the periods presented. Transactions recorded through other comprehensive income have been shown net of their tax impact, as applicable, based on currently enacted tax laws.

Net deferred tax (liabilities)/assets of €(51) million and €6 million have been recorded in the condensed consolidated statement of financial position as of March 31, 2019 and December 31, 2018, respectively. In evaluating the probability of realizing the deferred tax assets, the Group considered all available positive and negative evidence of future tax profit, including past operating results and the forecast of market growth and earnings. As of March 31, 2019 and December 31, 2018, deferred tax assets of €228 million and €276 million have not been recognized.

8. Loss per share

Basi c loss per share is computed using the weighted-average number of outstanding ordinary shares during the period. Diluted loss per share is computed using the treasury stock method to the extent that the effect is dilutive by using the weighted-average number of outstanding ordinary shares and potential ordinary shares during the period. The Group's potential ordinary shares consist of incremental shares issuable upon the assumed exercise of stock options and warrants, and the incremental shares issuable upon the assumed vesting of unvested restricted stock units and restricted stock awards, excluding all anti-dilutive ordinary shares outstanding during the period. The computation of loss per share for the respective periods is as follows:

	Three months ended March 31,	
	2019	**2018**
	(in € millions, except share and per share data)	
Basic and diluted loss per share		
Net loss attributable to owners of the parent	(142)	(169)
Shares used in computation:		
Weighted-average ordinary shares outstanding	180,613,539	167,778,952
Basic and diluted loss per share attributable to owners of the parent	**(0.79)**	**(1.01)**

Potential dilutive securities that were not included in the diluted loss per share calculations because they would be anti-dilutive were as follows:

	Three months ended March 31,	
	2019	2018
Share options	13,340,362	14,891,965
Restricted stock units	347,027	191,986
Restricted stock awards	61,880	61,880
Other contingently issuable shares	162,320	—
Shares issued upon exchange of Convertible Notes	—	9,431,960
Warrants	6,720,000	6,720,000

9 . Leases

On January 1, 2019, the Group adopted IFRS 16, and all related amendments, using the modified retrospective transition method, under which the cumulative effect of initial application is recognized in accumulated deficit at January 1, 2019. The new standard requires the recognition of right-of-use assets and lease liabilities on the Group's balance sheet for operating leases, along with the net impact on transition recorded to accumulated deficit. The Group is required to separately recognize the interest expense on the lease liability and the depreciation expense on the right-of-use asset.

The Group's statement of operations for the three months ended March 31, 2019 reflect additional depreciation expense due to the right-of use assets, an increase in finance costs for effective interest expense on its lease liabilities, and is partially offset by a reduction in rental expenses.

There is no impact to the overall changes in cash flows. However, operating cash flows is positively impacted, while financing cash flows is negatively impacted due primarily to the classification of principal payments on lease liabilities.

The comparative information for 2018 has not been restated and continues to be reported under IAS 17 and related interpretations. The primary change in accounting policies as a result of the application of IFRS 16 is explained below. Such a change is made in accordance with the transitional provisions of IFRS 16.

Definition of a lease

Previously, the Group determined at contract inception whether an arrangement is or contains a lease under IAS 17 and IFRIC 4. Under IFRS 16, the Group assesses whether a contract is or contains a lease based on the definition of a lease, as explained in the accounting policy below.

The Group elected to use the transition practical expedient allowing the standard to be applied only to contracts that were previously identified as leases applying IAS 17 and IFRIC 4 at the date of initial application. Therefore, the definition of a lease under IFRS 16 was applied only to contracts entered into or changed on or after January 1, 2019.

As a lessee, the Group previously classified leases as operating or finance leases based on its assessment of whether the lease transferred significantly all of the risks and rewards incidental to ownership of the underlying asset to the Group. Under IFRS 16, the Group recognizes right-of-use assets and lease liabilities for most leases previously classified as operating under IAS 17.

The Group leases certain properties under non-cancellable operating lease agreements that relate to office space. The expected lease terms are between one and sixteen years.

The Group does not currently act in the capacity of a lessor.

Leases classified as operating leases under IAS 17

At transition, lease liabilities were measured at the present value of the remaining lease payments, discounted at the lessee's incremental borrowing rate as at January 1, 2019. Right-of-use assets are measured at their carrying amount as if IFRS 16 had been applied since the commencement date and discounted using the lessee's incremental borrowing rate at the date of initial application.

The Group used the following practical expedients when applying IFRS 16 to leases previously classified as operating leases under IAS 17.

- Applied the exemption not to recognize right-of-use assets and liabilities for leases with less than 12 months of lease term.
- Excluded initial direct costs from measuring the right-of-use asset at the date of initial application.
- Used hindsight when determining the lease term if the contract contains options to extend or terminate the lease.

Below is reconciliation of lease liabilities related to lease commitments as of that date recognized due to the modified retrospective application of IFRS 16:

	January 1, 2019 (in € millions)
Total lease commitments as of December 31, 2018	833
Impact of discounting remaining lease payments	(285)
Recognition exemption for short-term leases	(7)
Total lease liabilities included in the condensed consolidated statement of financial position at January 1, 2019	541
Current	20
Non-current	521
Total	541

The weighted average incremental borrowing rate applied to lease liabilities recognized in the statement of financial position at the date of initial application was 6.7%.

Significant accounting policy for leases

Policy applicable before January 1, 2019

Prior to January 1 2019, the accounting policies for the Group's leases were consistent with those disclosed in the Group's consolidated financial statements for the year ended December 31, 2018.

Policy applicable from January 1, 2019

At inception of a contract, the Group assesses whether a contract is, or contains, a lease. A contract is, or contains, a lease if the contract conveys the right to control the use of an identified asset for a period of time in exchange for consideration. To assess whether a contract conveys the right to control the use of an identified asset, the Group assesses whether:

- The contract involves the use of an identified asset – this may be specified explicitly or implicitly, and should be physically distinct or represent substantially all of the capacity of a physically distinct asset. If the supplier has a substantive substitution right, then the asset is not identified.
- The Group has the right to obtain substantially all of the economic benefits from the use of the asset throughout the period of use; and
- The Group has the right to direct the use of the asset. The Group has this right when it has the decision-making rights that are most relevant to changing how and for what purpose the asset is used.

At inception or on reassessment of a contract that contains a lease component, the Group allocates the consideration in the c ontract to each lease component on the basis of their relative stand-alone prices.

As a Lessee

The Group recognizes a right-of-use asset and a lease liability at the lease commencement date. The right-of-use asset is initially measured at cost, which comprises the initial amount of the lease liability adjusted for any lease payments made at of before the commencement date, plus any initial direct costs incurred and an estimate of costs to dismantle and remove the underlying asset or to restore the underlying asset or the site on which it is located, less any lease incentives received prior to the commencement date. Any costs related to the removal and restoration of leasehold improvements, which meet the definition of fixed assets under IAS 16 *Property Plant and Equipment* are assessed under IAS 37 and are not within the scope of IFRS 16.

The right-of-use asset is subsequently depreciated using the straight-line method from the commencement date to the end of the lease term, which is considered the appropriate useful life of these assets. In addition, the right-of-use asset is reduced by impairment losses, if any, and adjusted for certain remeasurements of the lease liability, to the extent necessary.

The lease liability is initially measured at the present value of the lease payments that are not paid at the commencement date, discounted using an incremental borrowing rate if the rate implicit in the lease arrangement is not readily determinable.

Lease payments included in the measurement of the lease liability comprise fixed payments, including in-substance fixed payments and variable lease payments that depend on an index or a rate, initially measured using the index or rate as at the commencement date.

The lease liability is measured at amortized cost using the effective interest method. It is remeasured when there is a change in future lease payments arising from a change in an index or rate, lease term, or if the Group changes its assessment of whether it will exercise an extension or termination option. When the lease liability is remeasured in this way, a corresponding adjustment is made to the carrying amount of the right-of-use asset, or is recorded in profit or loss if the carrying amount of the right-of-use asset has been reduced to zero.

Lease incentives receivable are included in the initial measurement of the lease liability and right-of-use asset. Upon determining that the Group has an enforceable right to the receipt of the lease incentive, the Group increases the value of the lease liability and records a current receivable classified as a financial asset measured at amortized cost.

Short-term leases and lease of low-value assets

The Group has elected not to recognize right-of-use assets and lease liabilities for short term leases that have a lease term of 12 months or less and leases of low-value assets, including certain IT Equipment. The Group recognizes the lease payments associated with these leases as an expense on a straight-line basis over the lease term.

Expenses relating to short term leases, including those excluded from the IFRS 16 transition due to the election of the practical expedient, were approximately €3 million for the three months ended March 31, 2019.

Below is the roll-forward of lease right-of-use assets as of March 31, 2019:

Right of use assets	**(in € millions)**
Cost	
At January 1, 2019	471
Additions	27
Acquired in business combinations	11
Exchange differences	8
At March 31, 2019	**517**
Accumulated depreciation	
At January 1, 2019	(75)
Depreciation charge	(11)
Exchange differences	(1)
At March 31, 2019	**(87)**
Cost, net accumulated depreciation	
At January 1, 2019	**396**
At March 31, 2019	**430**

Below is the maturity analysis of lease liabilities as of March 31, 2019

Lease liabilities	**March 31, 2019**
Maturity Analysis	**(in € millions)**
Less than one year	69
One to five years	305
More than five years	520
Total lease commitments [1]	894
Impact of discounting remaining lease payments	(308)
Total lease liabilities at March 31	586
Lease liabilities included in the condensed consolidated statement of financial position at March 31	
Current	31
Non-current	555
Total	586

(1) Excluded from the lease commitments above are short term leases that are not recognized under IFRS 16 based on the Group's election of the practical expedient. Additionally, the Group has entered into certain lease agreements which have not commenced as of March 31, 2019, and as such, have not been recognized on the condensed consolidated statement of financial position.

10. Property and equipment

	Property and equipment	Leasehold improvements	Total
		(in € millions)	
Cost			
At January 1, 2019	**61**	**216**	**277**
Additions	8	33	41
Acquisition, business combination (Note 4)	1	5	6
Exchange differences	1	4	5
At March 31, 2019	**71**	**258**	**329**
Accumulated depreciation			
At January 1, 2019	**(50)**	**(30)**	**(80)**
Depreciation charge	(2)	(4)	(6)
Impairment	—	(6)	(6)
Exchange differences	(1)	(1)	(2)
At March 31, 2019	**(53)**	**(41)**	**(94)**
Cost, net accumulated depreciation			
At January 1, 2019	**11**	**186**	**197**
At March 31, 2019	**18**	**217**	**235**

The Group had €74 million and €113 million of leasehold improvements that were not placed into service as of March 31, 2019 and December 31, 2018, respectively.

11 . Goodwill and intangible assets

	Internal development costs and patents	Acquired intangible assets	Total	Goodwill	Total
			(in € millions)		
Cost					
At January 1, 2019	**26**	**21**	**47**	**146**	**193**
Additions	3	—	3	—	3
Acquisition, business combination (Note 4)	—	27	27	274	301
Exchange differences	—	—	—	4	4
At March 31, 2019	**29**	**48**	**77**	**424**	**501**
Accumulated amortization					
At January 1, 2019	**(12)**	**(7)**	**(19)**	**—**	**(19)**
Amortization charge	(2)	(2)	(4)	—	(4)
At March 31, 2019	**(14)**	**(9)**	**(23)**	**—**	**(23)**
Cost, net accumulated amortization					
At January 1, 2019	**14**	**14**	**28**	**146**	**174**
At March 31, 2019	**15**	**39**	**54**	**424**	**478**

Amortization charges of €3 million and €2 million are included in research and development in the condensed consolidated statement of operations during the three months ended March 31, 2019 and 2018, respectively. There were no impairment charges for goodwill or intangible assets for the three months ended March 31, 2019 and 2018.

12 . Restricted cash and other non-current assets

	March 31, 2019	December 31, 2018
	(in € millions)	
Restricted cash		
Lease deposits and guarantees	54	52
Other	3	3
Other non-current assets	13	10
	70	**65**

13 . Equity and other reserves

As of March 31, 2019 and December 31, 2018, the Company had 180,667,912 and 180,856,081 ordinary shares issued and outstanding, respectively, with an additional 3,233,128 and 3,044,959 ordinary shares held as treasury shares, respectively.

For the three months ended March 31, 2019, the Company repurchased 1,019,409 of its own ordinary shares and reissued 831,240 treasury shares upon the exercise of stock options and restricted stock units. For the three months ended March 31, 2018, the Company repurchased 5,740,000 of its own ordinary shares and reissued 0 treasury shares upon the exercise of stock options and restricted stock units.

As of March 31, 2019 and December 31, 2018, the Group’s founders held 364,785,640 beneficiary certificates.

Other reserves

	2019	2018
	(in € millions)	
Currency translation		
At January 1	**(15)**	**(7)**
Currency translation	4	(15)
At March 31	**(11)**	**(22)**
Short term investments		
At January 1	**(4)**	**(5)**
Gains/(losses) on fair value that may be subsequently reclassified to condensed consolidated statement of operations	3	(4)
Losses reclassified to condensed consolidated statement of operations	1	1
Deferred tax on unrealized gains and losses	(1)	2
At March 31	**(1)**	**(6)**
Long term investments		
At January 1	**561**	**(11)**
Gains on fair value not to be subsequently reclassified to condensed consolidated statement of operations	652	58
Deferred tax on unrealized gains	(134)	(13)
At March 31	**1,079**	**34**
Cash flow hedges		
At January 1	**(1)**	**—**
(Losses)/gains on fair value that may be subsequently reclassified to condensed consolidated statement of operations	(4)	2
Losses/(gains) reclassified to revenue	4	(2)
(Gains)/losses reclassified to cost of revenue	(3)	1
At March 31	**(4)**	**1**
Share-based payments		
At January 1	**334**	**200**
Share-based payments	27	18
Income tax impact associated with share-based payments	54	1
Issuance of share-based payments in conjunction with business combinations	13	—
At March 31	**428**	**219**
Other reserves at March 31	**1,491**	**226**

14 . Share-based payments

The expense recognized in the condensed consolidated statement of operations for share-based payments is as follows:

	Three months ended March 31,	
	2019	2018
	(in € millions)	
Cost of revenue	1	1
Research and development	13	7
Sales and marketing	5	5
General and administrative	7	5
	26	**18**

In connection with the acquisition of Anchor during the first quarter of 2019, the Company granted 162,320 equity instruments to certain employees of Anchor. Each instrument effectively represents one ordinary share of the Company which will be issued to t he holder upon vesting. The instruments vest annually over a four-year period from the acquisition date, and vesting of the instruments is contingent on continued employment. The instruments are accounted for as equity-settled share-based payment transacti ons and are measured based on the fair market value of the underlying ordinary shares on the date of grant. The grant date fair value of each equity instrument was US$145.21. For the three months ended March 31, 2019, there have been no forfeitures or rele ases of these instruments.

During the first quarter of 2019, the Company implemented a new restricted stock unit ("RSU") program for employees accounted for as equity-settled share-based payment transactions. The RSUs are measured based on the fair market value of the underlying ordinary shares on the date of grant. The RSUs granted to participants under the 2019 program have a first vesting period of three months from date of grant and monthly thereafter, until fully vested four years from date of grant.

Activity in the Group's RSUs and restricted stock awards ("RSAs") outstanding and related information is as follows:

	RSUs		RSAs	
	Number of RSUs	Weighted average grant date fair value	Number of RSAs	Weighted average grant date fair value
		US$		US$
Outstanding at January 1, 2019	**100,383**	**63.87**	**61,880**	**90.65**
Granted	253,118	138.00	—	—
Forfeited	(2,876)	76.63	—	—
Released	(3,598)	168.24	—	—
Outstanding at March 31, 2019	**347,027**	**116.75**	**61,880**	**90.65**

During the first quarter of 2019, the Company implemented a new Employee Share Option Plan ("ESOP"), under which share options of the Company are granted to executives and employees of the Group. For options granted under the 2019 plan, the exercise price is equal to the fair value of the ordinary shares on grant date or equal to 150% of the fair value of the ordinary shares on grant date. The exercise price is included in the grant date fair value of the award. The options granted to participants under the 2019 program have a first vesting period of three months from date of grant and monthly thereafter, until fully vested. The options are granted with a term of five years.

Activity in the Group's share options outstanding and related information is as follows:

	ESOP	
	Number of options	Weighted average exercise price
		US$
Outstanding at January 1, 2019	**12,243,526**	**77.63**
Granted	2,072,396	145.20
Forfeited	(143,986)	87.80
Exercised	(828,233)	45.18
Expired	(3,341)	84.56
Outstanding at March 31, 2019	**13,340,362**	**90.03**
Exercisable at January 1, 2019	**5,162,876**	**58.25**
Exercisable at March 31, 2019	**5,301,229**	**64.16**

The weighted-average contractual life for the share options outstanding at March 31, 2019 is 3.1 years. The weighted average share price at exercise for options exercised during the three months ended March 31, 2019 was US$141.67. The weighted average fair value of options granted during the three months ended March 31, 2019 was US$37.00 per o ption.

The following table lists the inputs to the Black-Scholes option-pricing models used for share-based payments for the three months ended March 31, 2019 and 2018:

	Three months ended March 31,	
	2019	2018
Expected volatility (%)	32.8 – 35.2	32.4 – 34.7
Risk-free interest rate (%)	2.5 – 2.6	2.4 – 2.6
Expected life of share options (years)	2.6 – 4.8	2.8 – 4.4
Weighted average share price (US$)	113.5 – 138.00	123.13

15 . Trade and other receivables

	March 31, 2019	December 31, 2018
	(in € millions)	
Trade receivables	270	286
Less: allowance for expected credit losses	(7)	(8)
Less: provision for credit reserves	(5)	(5)
Trade receivables – net	258	273
Other	133	127
	391	**400**

Other includes €14 million for amounts expected to be recovered from rights holders for retroactive statutory rate change in 2018.

16 . Trade and other payables

	March 31, 2019	December 31, 2018
	(in € millions)	
Trade payables	255	295
Value added tax and sales taxes payable	125	118
Other current liabilities	17	14
	397	**427**

17 . Accrued expenses and other liabilities

	March 31, 2019	December 31, 2018
	(in € millions)	
Non-current		
Deferred rent	—	85
Other accrued liabilities	1	—
	1	**85**
Current		
Accrued fees to rights holders	998	832
Accrued salaries, vacation, and related taxes	42	41
Accrued social costs for options and RSUs	87	64
Lease liabilities	31	—
Other accrued expenses	140	139
	1,298	**1,076**
	1,299	**1,161**

18 . Provisions

	Legal contingencies	Other	Total
		(in € millions)	
Carrying amount at January 1, 2019	**39**	**11**	**50**
Charged/(credited) to the condensed statement of operations:			
Additional provisions	1	1	2
Exchange differences	—	(1)	(1)
Carrying amount at March 31, 2019	**40**	**11**	**51**
As at January 1, 2019:			
Current portion	**39**	**3**	**42**
Non-current portion	**—**	**8**	**8**
As at March 31, 2019:			
Current portion	**40**	**4**	**44**
Non-current portion	**—**	**7**	**7**

Various legal actions, proceedings, and claims are pending or may be instituted or asserted against the Group. The results of such legal proceedings are difficult to predict and the extent of the Group's financial exposure is difficult to estimate. The Group records a provision for contingent losses when it is both probable that a liability has been incurred and the amount of the loss can be reasonably estimated.

Between December 2015 and January 2016, two putative class action lawsuits wer e filed against Spotify USA Inc. in the U.S. District Court for the Central District of California, alleging that the Group unlawfully reproduced and distributed musical compositions without obtaining licenses. These cases were subsequently consolidated in May 2016 and transferred to the U.S. District Court for the Southern District of New York in October 2016, as *Ferrick et al. v. Spotify USA Inc.* , No. 1:16-cv-8412-AJN (S.D.N.Y.). In May 2017, the parties reached a signed class action settlement agreement that the court preliminarily approved, pursuant to which the Group will be responsible for (i) a US$43 million cash payment to a fund for the class, (ii) all settlement administration and notice costs, expected to be between US$1 million to US$2 million, (iii) a direct payment of class counsel's attorneys' fees of up to US$5 million dollars, (iv) future royalties for any tracks identified by claimants, as well as other class members who provide proof of ownership following the settlement, and (v) reserving future royalties for unmatched tracks. On May 22, 2018, the court granted final approval of the settlement. The court's order granting approval of the settlement was appealed by objectors to the U.S. Court of Appeals for the Second Circuit. As of January 1 5, 2019, t hose appeals have all been resolved. Th e objectors did not seek further appeals with the United States Supreme Court by the April 15, 2019 deadline to do so, and thus the settlement is now effective.

Even with the effectiveness of the settlement, the Group may still be subject to claims of copyright infringement by rights holders who have purported to opt out of the settlement or who may not otherwise be covered by its terms.

19 . Financial instruments

Foreign exchange forward contracts

Cash flow hedges

The Group's primary currency pairs used for cash flow hedges are Euro / U.S. dollar, Euro / Australian dollar, Euro / British pound, and Euro / Swedish krona. The notional principal of the foreign exchange contracts was approximately €1,046 million as of March 31, 2019. The following table summarizes the notional principal amount of the foreign currency exchange contracts by hedged line item in the condensed statement of operations as of March 31, 2019:

	Notional amount in foreign currency			
	Australian dollar (AUD)	British pound (GBP)	Swedish krona (SEK)	U.S. dollar (USD)
	(in millions)			
Hedged line item in condensed consolidated statement of operations				
Revenue	202	295	1,133	29
Cost of revenue	156	216	753	20
Total	**358**	**511**	**1,886**	**49**

Non designated hedges

In the first quarter of 2018, the Group effectively closed its positions in foreign exchange forward contracts not designated as hedges and recognized a gain of €8 million in finance income associated with the changes in fair value of these instruments. The Group had no foreign exchange forward contracts not designated as hedges outstanding as of December 31, 2018 or March 31, 2019.

Fair values

The carrying amounts of certain financial instruments, including cash and cash equivalents, trade and other receivables, restricted cash, trade and other payables, and accrued expenses and other liabilities approximate fair value due to their relatively short maturities. The Group measures its lease liabilities at the present value of the lease

payments for the right to use the underlying asset during the lease term that are not paid. All other financial assets and liabilities are accounted for at fair value.

The following tables summarize, by major security type, the Group's financial assets and liabilities that are measured at fair value on a recurring basis, and the category using the fair value hierarchy:

Financial assets and liabilities by fair value hierarchy level	Level 1	Level 2	Level 3	March 31, 2019
		(in € millions)		
Financial assets at fair value				
Short term investments:				
Government securities	136	58	—	194
Agency securities	—	5	—	5
Corporate notes	—	309	—	309
Collateralized reverse purchase agreements	—	152	—	152
Derivatives (not designated for hedging):				
Other	—	—	1	1
Derivatives (designated for hedging):				
Foreign exchange forwards	—	10	—	10
Long term investments	2,282	—	17	2,299
Total financial assets at fair value by level	**2,418**	**534**	**18**	**2,970**
Financial liabilities at fair value				
Derivatives (not designated for hedging):				
Warrants	—	—	478	478
Derivatives (designated for hedging):				
Foreign exchange forwards	—	13	—	13
Total financial liabilities at fair value by level	**—**	**13**	**478**	**491**

Financial assets and liabilities by fair value hierarchy level	Level 1	Level 2	Level 3	December 31, 2018
		(in € millions)		
Financial assets at fair value				
Short term investments:				
Government securities	164	57	—	221
Agency securities	—	7	—	7
Corporate notes	—	343	—	343
Collateralized reverse purchase agreements	—	344	—	344
Derivatives (not designated for hedging):				
Other	—	—	2	2
Derivatives (designated for hedging):				
Foreign exchange forwards	—	6	—	6
Long term investments	1,630	—	16	1,646
Total financial assets at fair value by level	**1,794**	**757**	**18**	**2,569**
Financial liabilities at fair value				
Derivatives (not designated for hedging):				—
Warrants	—	—	333	333
Derivatives (designated for hedging):				
Foreign exchange forwards	—	6	—	6
Total financial liabilities at fair value by level	**—**	**6**	**333**	**339**

All assets and liabilities for which fair value is measured or disclosed in the condensed consolidated financial statements are categorized within the fair value hierarchy, described as follows, based on the lowest level input that is significant to the fair value measurement as a whole:

- Level 1: quoted (unadjusted) prices in active markets for identical assets or liabilities

- Level 2: other techniques for which inputs are based on quoted prices for identical or similar instruments in markets that are not active, quoted prices for similar instruments in active markets, and model-based valuation techniques for which all significant assumptions are observable in the market or can be corroborated by observable market data for substantially the full term of the asset or liability

- Level 3: techniques that use inputs that have a significant effect on the recognized fair value that require the Group to use its own assumptions about market participant assumptions

The Group's policy is to recognize transfers into and transfers out of fair value hierarchy levels at the end of each reporting period. During the three months ended March 31, 2019, there were no transfers between levels in the fair value hierarchy.

Recurring fair value measurements

Long term investment – Tencent Music Entertainment Group ("TME")

The Group's approximate 9% investment in TME is carried at fair value through other comprehensive income. Prior to December 12, 2018, the fair value of unquoted ordinary shares of TME had been estimated using unquoted TME market transactions, the latest fair value per ordinary share disclosed within TME's initial registration statement on Form F-1 filed with the SEC and other unobservable inputs. Subsequent to December 12, 2018, the fair value of ordinary shares of TME is based on the ending NYSE American depository share price. The fair value of the investment in TME may vary over time and is subject to a variety of risks including: company performance, macro-economic, regulatory, industry, USD to Euro exchange rate and systemic risks of the equity markets overall.

The table below presents the changes in the investment in TME:

	2019	2018
	(in € millions)	
At January 1	**1,630**	**910**
Changes in fair value recorded in other comprehensive income	652	58
At March 31	**2,282**	**968**

The impact on the fair value of the Group's long term investment in TME using reasonably possible alternative assumptions with an increase or a decrease of TME's share price used to value the Group's equity interests of 10% results in a range of €2,054 million to €2,510 million at March 31, 2019 .

The following sections describe the valuation methodologies the Group uses to measure its Level 3 financial instruments at fair value on a recurring basis.

Fair value of ordinary shares

On April 3, 2018, the Group completed a direct listing of the Company's ordinary shares on the NYSE. The fair value of the Company's ordinary shares subsequent to the direct listing is based on the NYSE closing ordinary share price of the Group.

The valuation of certain items in the interim condensed consolidated financial statements prior to the direct listing was consistent with the methods described in the Group's consolidated financial statements for the year ended December 31, 2018.

Warrants

The warrants are valued using a Bla ck-Scholes option-pricing model. Assumptions used to estimate the fair value of the warrants in the option pricing model as follows:

	March 31, 2019
Expected term (years)	0.55 – 1.21
Risk free rate (%)	2.36% – 2.42%
Volatility (%)	32.5% – 35.0%
Share price (US$)	$ 138.80

The table below presents the changes in the warrants liability:

	2019	2018
	(in € millions)	
At January 1	**333**	**346**
Non cash changes recognized in condensed consolidated statement of operations		
Changes in fair value	138	68
Effect of changes in foreign exchange rates	7	(9)
At March 31	**478**	**405**

The impact on the fair value of the warrants with an increase or decrease in the Company's ordinary share price of 10% results in a range of €400 million to €564 million at March 31, 2019.

Convertible Notes

Prior to the Group's direct listing, the Convertible Notes were valued at the assumed exchange to ordinary shares based on the fair value of the Company's ordinary share price. The key assumptions to the fair value of ordinary shares were consistent with the methods described in the Group's consolidated financial statements for the year ended December 31, 2018.

On April 3, 2018, the Group completed a direct listing of the Company's ordinary shares on the NYSE, and the option for the Convertible Noteholders to unwind the January 2018 exchange transaction expired. As a result, the Group recorded an expense of €123 million within finance costs to mark to market the Convertible Notes to the fair value based on the closing price of the Company's ordinary shares on April 3, 2018. The Company then reclassified the Convertible Notes balance of €1.1 billion to Other paid in capital within Equity.

The table below presents the changes in the Convertible Notes:

	2018
	(in € millions)
At January 1	**944**
Non cash changes recognized in condensed consolidated statement of operations	
Changes in fair value	103
Effect of changes in foreign exchange rates	(25)
At March 31	**1,022**

20 . Contingencies

Various legal actions, proceedings, and claims are pending or may be instituted or asserted against the Group. These may include but are not limited to matters arising out of alleged infringement of intellectual property;

alleged violations of consumer reg ulations; employment-related matters; and disputes arising out of supplier and other contractual relationships. As a general matter, the music and other content made available on the Group's service are licensed to the Group by various third parties. Many of these licenses allow rights holders to audit the Group's royalty payments, and any such audit could result in disputes over whether the Group has paid the proper royalties. If such a dispute were to occur, the Group could be required to pay additional r oyalties, and the amounts involved could be material. The Group expenses legal fees as incurred. The Group records a provision for contingent losses when it is both probable that a liability has been incurred and the amount of the loss can be reasonably es timated. An unfavorable outcome to any legal matter, if material, could have an adverse effect on the Group's operations or its financial position, liquidity, or results of operations.

Since July 2017, six lawsuits alleging unlawful reproduction and distribution of musical compositions have been filed against the Group in (i) the U.S. District Court for the Middle District of Tennessee (*Bluewater Music Services Corporation v. Spotify USA Inc.* , No. 3:17-cv-01051; *Gaudio et al. v. Spotify USA Inc.* , No. 3:17-cv-01052; *Robertson et al. v. Spotify USA Inc.* , No. 3:17-cv-01616; and *A4V Digital, Inc. et al. v. Spotify USA Inc.* , 3:17-cv-01256), (ii) in the U.S. District Court for the Southern District of Florida (*Watson Music Group, LLC v. Spotify USA Inc.* , No. 0:17-cv-62374), and (iii) the U.S. District Court for the Central District of California (*Wixen Music Publishing Inc. v. Spotify USA, Inc.* , 2:17-cv-09288). The complaints seek an award of damages, including the maximum statutory damages allowed under U.S. copyright law of US$150,000 per work infringed. The *Wixen v. Spotify* lawsuit was voluntarily dismissed on December 20, 2018 after the parties reached a mutual settlement. The Group expects the *Watson v. Spotify* lawsuit to be voluntarily dismissed based on the expiration of the remaining opportunity to appeal the *Ferrick v. Spotify* matter. The Group intends to vigorously defend the remaining claims.

21 . Events after the reporting period

Subsequent to quarter end, the Group acquired Cutler Media, LLC ("Parcast"), a premier storytelling podcast studio, for an estimated purchase consideration of approximately €50 million. The acquisition allows the Group to bolster its content portfolio and utilize Parcast's writers, producers, and researchers in the production of high quality content.

Item 2. Mana gement's Discussion and Analysis of Financial Condition and Results of Operations

Special Note Regarding Forward Looking Statements

This discussion and analysis reflects our historical results of operations and financial position and contains estimates and forward-looking statements. All statements other than statements of historical fact are forward-looking statements. The words "may," "might," "will," "could," "would," "should," "expect," "plan," "anticipate," "intend," "seek," "believe," "estimate," "predict," "potential," "continue," "contemplate," "possible," and similar words are intended to identify estimates and forward-looking statements.

Our estimates and forward-looking statements are mainly based on our current expectations and estimates of future events and trends, which affect or may affect our businesses and operations. Although we believe that these estimates and forward-looking statements are based upon reasonable assumptions; they are subject to numerous risks and uncertainties and are made in light of information currently available to us. Many important factors may adversely affect our results as indicated in forward-looking statements. These factors include, but are not limited to:

- our ability to attract prospective users and to retain existing users;
- our dependence upon third-party licenses for sound recordings and musical compositions;
- our lack of control over the providers of our content and their effect on our access to music and other content;
- our ability to generate sufficient revenue to be profitable or to generate positive cash flow on a sustained basis;
- our ability to comply with the many complex license agreements to which we are a party;
- our ability to accurately estimate the amounts payable under our license agreements;
- the limitations on our operating flexibility due to the minimum guarantees required under certain of our license agreements;
- our ability to obtain accurate and comprehensive information about music compositions in order to obtain necessary licenses or perform obligations under our existing license agreements;
- potential breaches of our security systems;
- assertions by third parties of infringement or other violations by us of their intellectual property rights;
- competition for users and user listening time;
- our ability to accurately estimate our user metrics and other estimates;
- risks associated with manipulation of stream counts and user accounts and unauthorized access to our services;
- changes in legislation or governmental regulations affecting us;
- ability to hire and retain key personnel;
- our ability to maintain, protect, and enhance our brand;
- risks associated with our international expansion, including difficulties obtaining rights to stream music on favorable terms;

- risks relating to the acquisition, investment, and disposition of companies or technologies;
- dilution resulting from additional share issuances;
- tax-related risks;
- the concentration of voting power among our founders who have and will continue to have substantial control over our business;
- risks related to our status as a foreign private issuer;
- international, national or local economic, social or political conditions; and
- risks associated with accounting estimates, currency fluctuations and foreign exchange controls.

We operate in an evolving environment. New risk factors and uncertainties emerge from time to time, and it is not possible for our management to predict all risk factors and uncertainties, nor are we able to assess the impact of all of these risk factors on our business or the extent to which any risk factor, or combination of risk factors, may cause actual results to differ materially from those contained in any forward-looking statements.

We qualify all of our forward-looking statements by these cautionary statements. For additional information, refer to the risk factors discussed under "Item 1A. Risk Factors" below and in our other filings with the U.S. Securities and Exchange Commission ("SEC").

You should read this discussion and analysis completely and with the understanding that our actual future results may be materially different and worse from what we expect.

Overview

Our mission is to unlock the potential of human creativity by giving a million creative artists the opportunity to live off their art and billions of fans the opportunity to enjoy and be inspired by these creators.

We are a global audio streaming service with the largest global music streaming subscription audience. With a presence in 79 countries and territories and growing, our platform includes 217 million monthly active users ("MAUs") and 100 million Premium Subscribers (as defined below) as of March 31, 2019.

Our users are highly engaged. We currently monetize our Service through both subscriptions and advertising. Our Premium Subscribers have grown 32% year-over-year as of March 31, 2019 to 100 million. Our 217 million MAUs have grown 26% year-over-year as of March 31, 2019.

Our results reflect the effects of our bi-annual trial programs, in addition to seasonal trends in user behavior and, with respect to our Ad-Supported segment, advertising behavior. Historically, Premium Subscriber growth accelerates when we run bi-annual trial programs in the summer and winter, which typically begin in the last month of the second and fourth quarters. This leads to decreases in gross margin in the first and third quarter of each year, as we absorb the promotional expenses of discounted trial offers.

For our Ad-Supported segment, we experience higher advertising revenues in the fourth quarter of each calendar year due to greater advertising demand during the holiday season. However, in the first quarter of each calendar year, we typically experience a seasonal decline in advertising revenue due to reduced advertiser demand. The rapid growth in our business to date has somewhat masked these trends. In the future, we expect these trends to become more apparent.

Key Performance Indicators

MAUs

We track MAUs as an indicator of the size of the audience engaged with our Service. We define MAUs as the total count of users of our Ad-Supported Service ("Ad-Supported Users") and Premium Subscribers that have consumed content for greater than zero milliseconds in the last thirty days from the period-end indicated. Reported MAUs may overstate the number of unique individuals who actively use our Service within a thirty-day period as one individual may register for, and use, multiple accounts. Additionally, fraud and unauthorized access to our Service may contribute, from time to time, to an overstatement of MAUs, if undetected. Fraudulent accounts typically are created by bots to inflate content licensing payments to individual rights holders. We strive to detect and minimize these fraudulent accounts. Our MAUs in the tables below are inclusive of users that may have employed methods to limit or otherwise avoid being served advertisements. For additional information, refer to the risk factors discussed under Part II – Other Information, "Item 1A. Risk Factors" below and in our other filings with the SEC.

The table below sets forth our monthly active users as of March 31, 2019 and 2018.

	As of March 31,			
	2019	2018	Change	
	(in millions, except percentages)			
MAUs	217	173	44	26%

MAUs were 217 million as of March 31, 2019 and 173 million as of March 31, 2018, which represented an increase of 26%. The increase in MAUs benefited from our continued investment in driving the growth of our Service, both through geographic expansion and consumer marketing. The increase also benefited from continued investment in content and features on our platform, including featured playlists, artist marketing campaigns, podcasts, and original content, to drive increased user engagement and customer satisfaction. MAUs were impacted positively by an increase in Premium Subscribers, as noted below.

Premium Subscribers

We define Premium Subscribers as users that have completed registration with Spotify and have activated a payment method for Premium Service. Our Premium Subscribers include all registered accounts in our Family Plan. Our Family Plan consists of one primary subscriber and up to five additional sub-accounts, allowing up to six Premium Subscribers per Family Plan Subscription. Premium Subscribers includes subscribers in a grace period of up to 30 days after failing to pay their subscription fee.

The table below sets forth our Premium Subscribers as of March 31, 2019 and 2018.

	As of March 31,			
	2019	2018	Change	
	(in millions, except percentages)			
Premium Subscribers	100	75	25	32%

Premium Subscribers were 100 million as of March 31, 2019 and 75 million as of March 31, 2018, which represented an increase of 32%. The Family Plan was a meaningful contributor of total gross added Premium Subscribers, while our bi-annual global summer and holiday campaigns and free trial offers also accounted for a significant portion of gross added Premium Subscribers.

Ad-Supported MAUs

We define Ad-Supported MAUs as the total count of Ad-Supported Users that have consumed content for greater than zero milliseconds in the last thirty days from the period-end indicated.

The table below sets forth our Ad-Supported MAUs as of March 31, 2019 and 2018.

	As of March 31,			
	2019	2018	Change	
	(in millions, except percentages)			
Ad-Supported MAUs	123	102	21	21%

Ad-Supported MAUs were 123 million as of March 31, 2019 and 102 million as of March 31, 2018, which represented an increase of 21%. Growth in Ad-Supported MAUs benefited from our continued investment in driving the growth of our Ad-Supported Service, both through geographic expansion and consumer marketing. The increase also benefited from continued investment in content and features on our platform, including featured playlists, artist marketing campaigns, podcasts, and original content, to drive increased Ad-Supported User engagement and customer satisfaction.

Premium Subscriber growth continues to outpace growth in total MAUs, which is why Ad-Supported MAU growth is trailing these two metrics. If this trend continues, it could become a drag on Ad-Supported Revenue growth, although increases in sell-through rates and advertising growth on podcasts could offset the effects of this slowing MAU growth on revenue growth.

Premium ARPU

Premium average revenue per user ("ARPU") is a monthly measure defined as Premium revenue recognized in the quarter indicated divided by the average daily Premium Subscribers in such quarter, which is then divided by three months.

The table below sets forth our average Premium ARPU for the three months ended March 31, 2019 and 2018.

	Three months ended March 31,			
	2019	2018	Change	
Premium ARPU	€ 4.71	€ 4.72	€ (0.01)	(0)%

For the three months ended March 31, 2019 and 2018, Premium ARPU was €4.71 and €4.72, respectively. The decrease was due principally to the continued growth of the Family Plan, reducing Premium ARPU by €0.10, while movements in foreign exchange rates had a favorable impact, increasing Premium ARPU by €0.08.

How We Generate Revenue

We operate and manage our business in two reportable segments—Premium and Ad-Supported. We identify our reportable segments based on the organizational units used by management to monitor performance and make operating decisions. See Note 5 to our condensed consolidated financial statements for additional information regarding our reportable segments.

Premium

We generate revenue for our Premium segment through the sale of the Premium Service. The Premium Service is sold directly to end users and through partners who are generally telecommunications companies that bundle the subscription with their own services or collect payment for the stand-alone subscriptions from the end user. Additionally, we bundle the Premium Service with third-party services and products.

Ad-Supported

We generate revenue for our Ad-Supported segment from the sale of display, audio, and video advertising delivered through advertising impressions. We generally enter into arrangements with advertising agencies that purchase advertising on our platform on behalf of the agencies' clients.

Components of our Operating Results

Cost of Revenue. Cost of revenue consists predominantly of royalty and distribution costs related to content streaming. We incur royalty costs, which we pay to certain record labels, music publishers, and other rights holders, for the right to stream music to our users. Royalties are typically calculated monthly based on the combination of a number of different elements. Generally, Premium Service royalties are based on the greater of a percentage of revenue and a per user amount. Royalties for the Ad-Supported Service are typically a percentage of revenue, although certain agreements are based on the greater of a percentage of revenue and an amount for each time a sound recording and musical composition is streamed. We have negotiated lower per user amounts for our lower priced subscription plans such as Family Plan and Student Plan users. In our agreements with certain record labels, the percentage of revenue used in the calculation of royalties is generally dependent upon certain targets being met. The targets can include such measures as the number of Premium Subscribers, the ratio of Ad-Supported Users to Premium Subscribers, and/or the rates of Premium Subscriber churn. With minor exceptions, we are effectively currently meeting the targets and consequently we are generally paying the lowest percentage of revenue possible per the agreements. In addition, royalty rates vary by country. Some of our royalty agreements require that royalty costs be paid in advance or are subject to minimum guaranteed amounts. For the majority of royalty agreements incremental costs incurred due to un-recouped advances and minimum guarantees have not been significant to date. We also have certain so-called most favored nation royalty agreements, which require us to record additional costs if certain material contract terms are not as favorable as the terms we have agreed to with similar licensors.

Cost of revenue also includes credit card and payment processing fees for subscription revenue, customer service, certain employee compensation and benefits, cloud computing, streaming, facility, and equipment costs, as well as amounts incurred to produce podcasts and other content.

Additionally, cost of revenue includes discounted trial costs related to our bi-annual trial programs. While we believe our trial programs help drive incremental revenue and gross margins as users convert to full-time Premium Subscribers, these trial programs, which historically have typically begun in the last month of the second and fourth quarters of each year, have led to decreases in gross margins in the first and third calendar quarters as we absorb the promotional expenses of the discounted trial offers.

Research and development. We invest heavily in research and development in order to drive user engagement and customer satisfaction on our platform, which we believe helps to drive organic growth in new MAUs, which in turn drives additional growth in, and better retention of, Premium Subscribers, as well as increased advertising opportunities to Ad-Supported Users. We aim to design products and features that create and enhance user experiences, and new technologies are at the core of many of these opportunities. Expenses primarily comprise costs incurred for development of products related to our platform and Service, as well as new advertising products and improvements to our mobile application and desktop application and streaming services. The costs incurred include related facility costs, consulting costs, and employee compensation and benefits costs. We expect engineers to represent a significant portion of our employees over the foreseeable future.

Many of our new products and improvements to our platform require large investments and involve substantial time and risks to develop and launch. Some of these products may not be well received or may take a long time for users to adopt. As a result, the benefits of our research and development investments are difficult to forecast.

Sales and Marketing. Sales and marketing expenses primarily comprise employee compensation and benefits, live events and trade shows, public relations, branding, consulting expenses, customer acquisition costs, advertising, amortization of trade name intangible assets, the cost of working with music record labels, publishers, songwriters, and artists to promote the availability of new releases on our platform, and the costs of providing free trials of Premium Services. Expenses included in the cost of providing free trials are derived primarily from per user royalty fees determined in accordance with the rights holder agreements.

General and Administrative. General and administrative expenses primarily comprise employee compensation and benefits for functions such as finance, accounting, analytics, legal, human resources, consulting fees, and other costs including facility and equipment costs, officers' liability insurance, and director fees.

Results of Operations

Revenue

	Three months ended March 31,			
	2019	2018	Change	
	(in € millions, except percentages)			
Premium	1,385	1,037	348	34%
Ad-Supported	126	102	24	24%
Total	**1,511**	**1,139**	**372**	**33%**

Premium revenue

For the three months ended March 31, 2019 and 2018, Premium revenue comprised 92% and 91% of our total revenue. For the three months ended March 31, 2019 as compared to the three months ended March 31, 2018, Premium revenue increased €348 million or 34%. The increase was attributable primarily to a 32% growth in the number of Premium Subscribers.

Ad-Supported revenue

For the three months ended March 31, 2019 and 2018, Ad-Supported revenue comprised 8% and 9% of our total revenue, respectively. For the three months ended March 31, 2019 as compared to the three months ended March 31, 2018, Ad-Supported revenue increased €24 million or 24%. This increase was due primarily to a 12% increase in the number of impressions sold, driven largely by the growth in our programmatic channel (i.e., impressions sold using an automated online platform), which grew revenue 42% year-over-year, accounting for 23% of our Ad-Supported revenue. Ad-Supported revenue growth also was driven by growth in our self-serve channel, which grew revenue 245% year-over-year. Our self-serve channel accounted for 3% of our Ad-Supported revenue, up from 1% in the three months ended March 31, 2018.

Foreign exchange impact on total revenue

The general weakening of the Euro relative to certain foreign currencies, primarily the U.S. dollar, for the three months ended March 31, 2019, as compared to the same period in 2018, had a favorable impact on our revenue. We estimate that total revenue for the three months ended March 31, 2019 would have been approximately €33 million lower if foreign exchange rates had remained consistent with foreign exchange rates for the three months ended March 31, 2018.

Cost of revenue

	Three months ended March 31,			
	2019	2018	Change	
	(in € millions, except percentages)			
Premium	1,026	767	259	34%
Ad-Supported	112	89	23	26%
Total	**1,138**	**856**	**282**	**33%**

Premium cost of revenue

For the three months ended March 31, 2019 as compared to the three months ended March 31, 2018, Premium cost of revenue increased €259 million, or 34%, and Premium cost of revenue as a percentage of Premium revenue remained at 74%. Premium cost of revenue as a percentage of Premium revenue remained stable due primarily to consistent licensing terms with the major labels year-over-year. The increase in Premium cost of revenue was driven by growth in new Premium Subscribers resulting in higher royalty costs, payment transaction fees, and streaming delivery costs of €242 million, €11 million, and €5 million, respectively. The first quarter of 2018 included a benefit of €14 million relating to changes in prior period estimates for rights holders liabilities.

Ad-Supported cost of revenue

For the three months ended March 31, 2019 as compared to the three months ended March 31, 2018, Ad-Supported cost of revenue increased €23 million, or 26%, and Ad-Supported cost of revenue as a percentage of Ad-Supported revenue increased from 87% to 89%. The increase in Ad-Supported cost of revenue is driven by growth in advertising revenue resulting in higher royalty costs of €16 million.

Foreign exchange impact on total cost of revenue

The general weakening of the Euro relative to certain foreign currencies, primarily the U.S. dollar, for the three months ended March 31, 2019, as compared to the same period in 2018, had an unfavorable impact on our cost of revenue. We estimate that total cost of revenue for three months ended March 31, 2019 would have been approximately €22 million lower if foreign exchange rates had remained consistent with foreign exchange rates for the three months ended March 31, 2018.

Gross profit and gross margin

	Three months ended March 31,			
	2019	2018	Change	
	(in € millions, except percentages)			
Gross profit				
Premium	359	270	89	33%
Ad-Supported	14	13	1	8%
Consolidated	**373**	**283**	**90**	**32%**
Gross margin				
Premium	26%	26%		
Ad-Supported	11%	13%		
Consolidated	**25%**	**25%**		

Premium gross profit and gross margin

For the three months ended March 31, 2019 as compared to the three months ended March 31, 2018, Premium gross profit increased by €89 million, and Premium gross margin remained at 26%. Premium gross margin remained flat due primarily to consistent licensing terms with the major labels year-over-year and a 1% benefit in the first quarter of 2018 relating to changes in prior period estimates for rights holders liabilities.

Ad-Supported gross profit and gross margin

For the three months ended March 31, 2019 as compared to the three months ended March 31, 2018, Ad-Supported gross profit increased by €1 million, and Ad-Supported gross margin decreased from 13% to 11%. The slight decrease in Ad-Supported gross margin was due to an increase in podcast content costs that outpaced revenue growth.

Operating expenses

Research and development

	Three months ended March 31,			
	2019	2018	Change	
	(in € millions, except percentages)			
Research and development	155	115	40	35%
As a percentage of revenue	**10%**	**10%**		

For the three months ended March 31, 2019 as compared to the three months ended March 31, 2018, research and development costs increased €40 million, or 35% . The increase was due primarily to an increase in personnel-r elated costs of €27 million resulting from increased headcount to support our growth. Facilities costs increased €7 million due primarily to a leasehold improvement impairment charge and increased depreciation. There also was an increase in information tec hnology costs of €6 million due to an increase in our usage of cloud computing services and additional software license fees. The increase in personnel-related costs was due primarily to increased salaries of €12 million, social costs of €8 million, and sh are-based payments of €5 million.

Sales and marketing

	Three months ended March 31,			
	2019	2018	Change	
	(in € millions, except percentages)			
Sales and marketing	172	138	34	25%
As a percentage of revenue	**11%**	**12%**		

For the three months ended March 31, 2019 as compared to the three months ended March 31, 2018, sales and marketing expense increased by €34 million, or 25%. The increase was due primarily to an increase in advertising costs of €19 million for marketing campaigns in existing markets, as well as new markets related to our continued international expansion. There also was an increase in personnel-related costs of €9 million resulting from increased headcount to support our growth. The increase in personnel-related costs was due primarily to increased salaries of €6 million.

General and administrative

	Three months ended March 31,			
	2019	2018	Change	
	(in € millions, except percentages)			
General and administrative	93	71	22	31%
As a percentage of revenue	**6%**	**6%**		

For the three months ended March 31, 2019 as compared to the three months ended March 31, 2018, general and administrative expense increased by €22 million or 31%. The increase was due primarily to incremental personnel-related costs of €13 million resulting from increased headcount. There also was an increase in external consulting and legal fees of €6 million due primarily to the acquisitions during the quarter. The increase in personnel-related costs was due primarily to increased salaries of €6 million and social costs of €5 million.

Finance income

Finance income consists of fair value adjustment gains on financial instruments, interest income earned on our cash and cash equivalents and short-term investments, and foreign currency gains.

	Three months ended March 31,			
	2019	2018	Change	
	(in € millions, except percentages)			
Finance income	34	15	19	127%
As a percentage of revenue	**2%**	**1%**		

For the three months ended March 31, 2019 as compared to the three months ended March 31, 2018, finance income increased €19 million due primarily to an increase of €25 million in foreign exchange gains on the remeasurement of monetary assets and liabilities in a transaction currency other than the functional currency. These gains were offset by a decrease in other financial income of €8 million.

Finance costs

Finance costs consist of fair value adjustment losses on financial instruments, interest expense, and foreign currency losses.

	Three months ended March 31,			
	2019	2018	Change	
	(in € millions, except percentages)			
Finance costs	(156)	(154)	(2)	1%
As a percentage of revenue	**(10)%**	**(14)%**		

For the three months ended March 31, 2019 as compared to the three months ended March 31, 2018, finance costs increased €2 million. This increase was due primarily to an increase in fair value losses recorded for outstanding warrants of €86 million and interest expense on lease liabilities of €9 million due to the adoption of IFRS 16. These increases were offset by a decrease of expense recorded for Convertible Notes of €78 million, due to the derecognition of our Convertible Notes upon direct listing and a decrease in foreign exchange losses on the remeasurement of monetary assets and liabilities in a transaction currency other than the functional currency of €17 million.

Income tax benefit

For the three months ended March 31, 2019 as compared to the three months ended March 31, 2018, income tax benefit increased by €16 million, due primarily to the recognition of deferred taxes as a result of the unrealized increase in the fair value of our long term investment in TME, and non-tax deductible intangibles recognized through our acquisitions of Gimlet and Anchor . The Group will be subject to deferred tax in future periods as a result of foreign exchange movements between USD, EUR, and SEK, primarily related to its investment in TME.

Net loss attributable to owners of the parent

	Three months ended March 31,			
	2019	2018	Change	
	(in € millions, except percentages)			
Net loss attributable to owners of the parent	(142)	(169)	27	(16)%
As a percentage of revenue	**(9)%**	**(15)%**		

For the three months ended March 31, 2019, as compared to the three months ended March 31, 2018, net loss attributable to owners of the parent decreased by €27 million, or 16%, due primarily to a decrease in finance income/(costs)-net and an increase in income tax benefit.

EBITDA

	Three months ended March 31,			
	2019	2018	Change	
	(in € millions, except percentages)			
EBITDA	(26)	(30)	4	(13)%
As a percentage of revenue	**(2)%**	**(3)%**		

For the three months ended March 31, 2019 as compared to the three months ended March 31, 2018, EBITDA loss decreased by €4 million or 13%. The decrease was due to an increase in gross profit offset by an increase in operating expenses, as described above.

Non-IFRS Financial Measures

We define EBITDA as net income/(loss) attributable to owners of the parent before finance income/(costs)—net, income tax (benefit)/expense, and depreciation and amortization. We believe EBITDA is useful to our management and investors as a measure of comparative operating performance from period to period and among companies as it is reflective of changes in pricing decisions, cost controls, and other factors that affect operating performance, and it removes the effect of items not directly resulting from our core operations. We believe that EBITDA also is useful to investors because this metric is frequently used by securities analysts, investors, and other interested parties in their evaluation of the operating performance of companies in the technology industry and other industries similar to ours. Our management also uses EBITDA for planning purposes, including the preparation of our annual operating budget and financial projections. EBITDA has limitations as an analytical tool. EBITDA should not be construed as an inference that our future results will be unaffected by unusual or non-recurring items. Additionally, EBITDA is not intended to be a measure of discretionary cash to invest in the growth of our business, as it does not reflect tax payments, debt service requirements, capital expenditures, and certain other cash costs that may recur in the future. Management compensates for these limitations by relying on our results reported under IFRS as issued by International Accounting Standards Board ("IASB") in addition to using EBITDA supplementally.

We define "Free Cash Flow" as net cash flows from operating activities less capital expenditures and change in restricted cash. We believe Free Cash Flow is a useful supplemental financial measure for us and investors in assessing our ability to pursue business opportunities and investments and to service our debt. Free Cash Flow is not a measure of our liquidity under IFRS and should not be considered as an alternative to net cash flows (used in)/from operating activities.

EBITDA and Free Cash Flow are non-IFRS measures and are not a substitute for IFRS measures in assessing our overall financial performance. Because EBITDA and Free Cash Flow are not measurements determined in accordance with IFRS, and are susceptible to varying calculations, it may not be comparable to other similarly titled measures presented by other companies. You should not consider EBITDA and Free Cash Flow in isolation, or as a substitute for an analysis of our results as reported on our condensed consolidated financial statements appearing elsewhere in this document.

Set forth below is a reconciliation of EBITDA to net loss attributable to owners of the parent.

	Three months ended March 31,	
	2019	2018
	(in € millions)	
Net loss attributable to owners of the parent	(142)	(169)
Finance (income)/costs – net	122	139
Income tax benefit	(27)	(11)
Depreciation and amortization	21	11
EBITDA	**(26)**	**(30)**

Set forth below is a reconciliation of Free Cash Flow to net cash flows from operating activities for the periods presented.

	Three months ended March 31,	
	2019	2018
	(in € millions)	
Net cash flows from operating activities	209	84
Capital expenditures	(37)	(6)
Change in restricted cash	1	(4)
Free Cash Flow	**173**	**74**

Liquidity and Capital Resources

Our principal sources of liquidity are our cash and cash equivalents, short term investments, and cash generated from operating activities. Cash and cash equivalents and short term investment securities consist mostly of cash on deposit with banks, investments in money market funds, investments in government securities, corporate debt securities, and collateralized reverse purchase agreements. Cash and cash equivalents and short-term investments decreased by €180 million from €1,806 million as of December 31, 2018 to €1,626 million as of March 31, 2019.

We believe our existing cash and cash equivalent balances and the cash flow we generate from our operations will be sufficient to meet our working capital and capital expenditure needs for at least the next 12 months. However, our future capital requirements may be materially different than those currently planned in our budgeting and forecasting activities and depend on many factors, including our rate of revenue growth, the timing and extent of spending on content and research and development, the expansion of our sales and marketing activities, the timing of new product introductions, market acceptance of our products, our continued international expansion, competitive factors, and overall economic conditions, globally. To the extent that current and anticipated future sources of liquidity are insufficient to fund our future business activities and requirements, we may be required to seek additional equity or debt financing. The sale of additional equity would result in additional dilution to our shareholders, while the incurrence of debt financing would result in debt service obligations. Such debt instruments also could introduce covenants that might restrict our operations. We cannot assure you that we could obtain additional financing on favorable terms or at all. For additional information, refer to the risk factors discussed under Part II – Other Information, “Item 1A. Risk Factors” below and in our other filings with the SEC.

We have planned capital expenditures of more than €200 million in the next 12 months associated with the build-out of office space in New York, London, Los Angeles, Stockholm, and Boston among others.

Cash Flow

	Three months ended March 31,	
	2019	2018
	(in € millions)	
Net cash flows from operating activities	209	84
Net cash flows (used in)/from investing activities	(49)	139
Net cash flows (used in)/from financing activities	(98)	43
Free Cash Flow (1)	173	74

(1) For a discussion of the limitations associated with using Free Cash Flow rather than IFRS measures, and a reconciliation of Free Cash Flow to net cash flows from operating activities , see “Non-IFRS Financial Measures” above.

Operating activities

Net cash flows from operating activities increased by €125 million to €209 million for the three months ended March 31, 2019 as compared to the three months ended March 31, 2018, due primarily to changes in working capital of €112 million. These changes were due primarily to the timing of payments on our rights holders liabilities and collections on trade receivables.

Investing activities

Net cash flows (used in) from investing activities increased by €188 million for the three months ended March 31, 2019 as compared to the three months ended March 31, 2018, due primarily to an increase in cash used in business combinations, net of cash acquired, of €288 million, partially offset by an increase in net cash inflows for purchases and sales of investments of €120 million.

Financing activities

Net cash flows (used in) from financing activities increased by €141 million for the three months ended March 31, 2019 as compared to the three months ended March 31, 2018, due primarily to treasury share purchases of €126 million and an increase in payments on lease liabilities of €5 million as a result of adopting IFRS 16.

Free Cash Flow

Free Cash Flow increased by €99 million to €173 million for the three months ended March 31, 2019 as compared to the three months ended March 31, 2018, due primarily to the increase in net cash flows from operating activities of €125 million, partially offset by an increase in capital expenditures of €31 million.

Restrictions on Subsidiaries to Transfer Funds

The payment of dividends and the making, or repayment, of loans and advances to the Company by the Company's direct subsidiaries and such payments by its indirect subsidiaries to their respective parent entities are subject to various restrictions. Future indebtedness of these subsidiaries may prohibit the payment of dividends or the making, or repayment, of loans or advances to the Company. In addition, the ability of any of the Company's direct or indirect subsidiaries to make certain distributions may be limited by the laws of the relevant jurisdiction in which the subsidiaries are organized or located, including financial assistance rules, corporate benefit laws, liquidity requirements, requirements that dividends must be paid out of reserves available for distribution, and other legal restrictions which, if violated, might require the recipient to refund unlawful payments. Spotify AB, which, directly or indirectly through its subsidiaries, conducts much of the Group's business, may only make dividends to the Company if there would continue to be full coverage of its restricted equity following such dividend, and only if doing so would be considered prudent under Swedish law given the needs of Spotify AB and its subsidiaries. Loans and other advances from Spotify AB to the Company may be subject to essentially the same restrictions as dividends. Since the Company is expected to rely primarily on dividends from its direct and indirect subsidiaries to fund its financial and other obligations, restrictions on its ability to receive such funds may adversely impact the Company's ability to fund its financial and other obligations.

Indebtedness

As of March 31, 2019, we have no material outstanding indebtedness, other than lease liabilities recognized upon the adoption of IFRS 16. We may from time to time seek to incur additional indebtedness. Such indebtedness, if any, will depend on prevailing market conditions, our liquidity requirements, contractual restrictions, and other factors. The amounts involved may be material.

Off-Balance Sheet Arrangements

As of March 31, 2019, we do not have transactions with unconsolidated entities, such as entities often referred to as structured finance or special purpose entities, whereby we have financial guarantees, subordinated retained interests, derivative instruments, or other contingent arrangements that expose us to material continuing risks, contingent liabilities, or any other obligation under a variable interest in an unconsolidated entity that provides financing, liquidity, market risk, or credit risk support to us.

Tabular Disclosure of Contractual Obligations

The following table sets forth our contractual obligations and commercial commitments as of March 31, 2019:

	Payments due by period				
Contractual obligations:	**Total**	**Less than 1 year**	**1-3 years**	**3-5 years**	**More than 5 years**
			(in € millions)		
Minimum guarantees [1]	856	773	83	—	—
Lease obligations [2]	909	75	156	154	524
Purchase obligations [3]	286	148	138	—	—
Total	**2,051**	**996**	**377**	**154**	**524**

(1) We are subject to minimum royalty payments associated with our license agreements for the use of licensed content. See risk factors discussed under Part II – Other Information, Item 1A. "Risk Factors" below and in our other filings with the SEC.

(2) Included in the lease obligations are short term leases and certain lease agreements that the Group has entered into, but have not yet commenced as of March 31, 2019. Lease obligations relate to our office space. The lease terms are between one and sixteen years. See Note 9 to the condensed consolidated financial statements for further details regarding leases.

(3) We are subject to a service agreement with Google for the use of Google Cloud Platform with minimum spend commitments.

Item 3. Quan titative and Qualitative Disclosures About Market Risk

Our activities expose us to a variety of market risks. Our primary market risk exposures relate to currency, interest rate, share price and investment risks. To manage these risks and our exposure to the unpredictability of financial markets, we seek to minimize potential adverse effects on our financial performance and capital.

Currency Risk

Currency risk manifests itself in transaction exposure, which relates to business transactions denominated in foreign currency required by operations (purchasing and selling) and/or financing (interest and amortization). In 2017, we began entering into multiple foreign exchange forward contracts. Our general policy is to hedge transaction exposure on a case-by-case basis. Translation exposure relates to net investments in foreign operations. We do not conduct translation risk hedging.

The Group will be subject to deferred tax in future periods as a result of foreign exchange movements between USD, EUR, and SEK, primarily related to its investment in TME.

Transaction Exposure Sensitivity

In most cases, our customers are billed in their respective local currency. Major payments, such as salaries, consultancy fees, and rental fees are settled in local currencies. Royalty payments are primarily settled in Euros and U.S. dollars. Hence, the operational need to net purchase foreign currency is due primarily to a deficit from such settlements.

The table below show the immediate impact on net income before tax of a 10% strengthening in the closing exchange rate of significant currencies to which we have transaction exposure, at March 31, 2019. The sensitivity associated with a 10% weakening of a particular currency would be equal and opposite. This assumes that each currency moves in isolation.

2019	AUD	EUR	GBP	SEK	USD
			(in € millions)		
(Increase)/decrease in loss before tax	(2)	(2)	5	(13)	56

Translation Exposure Sensitivity

The impact on our equity would be approximately €34 million if the Euro weakened by 10% against all translation exposure currencies, based on the exposure at March 31, 2019

Interest Rate Risk

Interest rate risk is the risk that changes in interest rates will have a negative impact on earnings and cash flow. Our exposure to interest rate risk is related to our interest-bearing assets, primarily our short term debt securities. Fluctuations in interest rates impact the yield of the investment. The sensitivity analysis considered the historical volatility of short term interest rates and determined that it was reasonably possible that a change of 100 basis points could be experienced in the near term. A hypothetical 100 basis point increase in interest rates would have impacted interest income by €1 million for the three months ended March 31, 2019.

Share Price Risk

Share price risk is the risk that the fair value or future cash flows of a financial instrument will fluctuate due to changes in the fair value of the Company's ordinary share price. Our exposure to this risk relates primarily to the outstanding warrants.

The impact on the fair value of the warrants with an increase or decrease in the Company's ordinary share price of 10% results in a range of €400 million to €564 million at March 31, 2019.

The impact on the accrual for social costs on outstanding share-based payment awards of an increase or decrease in the Company's ordinary share price of 10% would result in a change of €15 million at March 31, 2019.

Investment Risk

We are exposed to investment risk as it relates to changes in the market value of our long term investments, due primarily to volatility in the share price used to measure the investment and exchange rates. The majority of our long term investments relate to TME. The impact on the fair value of the Group's long term investment in TME using reasonably possible alternative assumptions with an increase or decrease of TME's share price used to value our equity interest of 10% results in a range of €2,054 million to €2,510 million at March 31, 2019.

Critical Accounting Policies, Estimates

We prepare our condensed consolidated financial statements in accordance with IFRS as issued by the IASB. Preparing these financial statements requires us to make estimates and assumptions that affect the reported amounts of assets, liabilities, equity, revenue, expenses, and related disclosures. We evaluate our estimates and assumptions on an ongoing basis. Our estimates are based on historical experience and various other assumptions that we believe to be reasonable under the circumstances. Our actual results may differ from these estimates.

We believe that the assumptions and estimates associated with revenues, share-based payments, content, warrants, business combinations, and income taxes have the greatest potential impact on our condensed consolidated financial statements. Therefore, we consider these to be our critical accounting policies and estimates.

There have been no material changes to our critical accounting policies and estimates, except those relating to business combinations noted below, as compared to the critical accounting policies and estimates described in our Annual Report on Form 20-F filed with the SEC on February 12, 2019 ("Form 20-F").

In business combinations, we allocate the fair value of purchase consideration to the tangible assets acquired, liabilities assumed, and intangible assets acquired based on their estimated fair values. The excess of the fair value of purchase consideration over the fair values of these identified assets and liabilities is recorded as goodwill. Such valuations require management to make significant estimates, assumptions, and judgments, especially with respect to intangible assets.

Recent Accounting Pronouncements

See Note 2 to our interim condensed consolidated financial statements included in this document for recently adopted accounting pronouncements and recently issued accounting pronouncements not yet adopted as of the dates of the statement of financial position included in this document.

PART II – OTHER INFORMATION

Item 1. Legal Proceedings

The Company is from time to time subject to various claims, lawsuits and other legal proceedings. Some of these claims, lawsuits and other legal proceedings involve highly complex issues, and often these issues are subject to substantial uncertainties. Accordingly, our potential liability with respect to a large portion of such claims, lawsuits and other legal proceedings cannot be estimated with certainty. Management, with the assistance of legal counsel, periodically reviews the status of each significant matter and assesses potential financial exposure. The Company recognizes provisions for claims or pending litigation when it determines that an unfavorable outcome is probable and the amount of loss can be reasonably estimated. Due to the inherent uncertain nature of litigation, the ultimate outcome or actual cost of settlement may materially vary from estimates. If management's estimates prove incorrect, current reserves could be inadequate and the Company could incur a charge to earnings which could have a material adverse effect on its results of operations, financial condition, net worth, and cash flows.

Between December 2015 and January 2016, two putative class action lawsuits were filed against us in the U.S. District Court for the Central District of California, alleging that we unlawfully reproduced and distributed musical compositions without obtaining licenses. These cases were subsequently consolidated in May 2016 and transferred to the U.S. District Court for the Southern District of New York in October 2016, as Ferrick et al. v. Spotify USA Inc., No. 1:16-cv-8412-AJN (S.D.N.Y.). In May 2017, the parties reached a signed class action settlement agreement which the court has preliminarily approved, pursuant to which we will be responsible for (i) a US$43 million cash payment to a fund for the class, (ii) all settlement administration and notice costs, expected to be between US$1 million to US$2 million, (iii) a direct payment of class counsel's attorneys' fees of up to US$5 million dollars, (iv) future royalties for any tracks identified by claimants, as well as other class members who provide proof of ownership following the settlement, and (v) reserving future royalties for unmatched tracks. On May 22, 2018, the court granted final approval of the settlement. All appeals of the court's final approval have been dismissed, and the deadline for appellants to appeal to the US Supreme Court has passed.

Even with the effectiveness of the settlement, we may still be subject to claims of copyright infringement by rights holders who have purported to opt out of the settlement or who may not otherwise be covered by its terms. For example, since July 2017, six lawsuits alleging unlawful reproduction and distribution of musical compositions have been filed against us in (i) the U.S. District Court for the Middle District of Tennessee (*Bluewater Music Services Corporation v. Spotify USA Inc.* , No. 3:17-cv-01051; *Gaudio et al. v. Spotify USA Inc.* , No. 3:17-cv-01052; *Robertson et al. v. Spotify USA Inc.* , No. 3:17-cv-01616; and *A4V Digital, Inc. et al. v. Spotify USA Inc.* , 3:17-cv-01256), (ii) in the U.S. District Court for the Southern District of Florida (*Watson Music Group, LLC v. Spotify USA Inc.* , No. 0:17-cv-62374), and (iii) the U.S. District Court for the Central District of California (*Wixen Music Publishing Inc. v. Spotify USA, Inc.* , 2:17-cv-09288) (alleging that Spotify has infringed the copyrights in over 10,000 musical compositions). The complaints seek an award of damages, including the maximum statutory damages allowed under U.S. copyright law of US$150,000 per work infringed. The *Wixen v. Spotify* lawsuit was voluntarily dismissed on December 20, 2018 after the parties reached a mutual settlement. We expect the *Watson v. Spotify* lawsuit to be voluntarily dismissed based on the expiration of the opportunity to appeal the *Ferrick v. Spotify* matter. We intend to vigorously defend the remaining claims.

Item 1A. Ri sk Factors

There have been no material changes from the risk factors in Part I, Item 3.D. of our Form 20-F.

Item 2. Unregistered Sales of Equity Securities and Use of Proceeds

Share repurchase activity during the three months ended March 31, 2019 was as follows:

Period	Total Number of Shares Purchased	Average Price Paid per Share	Total Number of Shares Purchased as Part of Publicly Announced Plans or Programs (1)	Maximum Number of Shares that May Yet Be Purchased Under the Plans or Programs	Maximum Value of Shares that May Yet Be Purchased Under the Plans or Programs
January 1, 2019 - January 31, 2019	431,941	$ 126.74	431,941	8,880,788	$ 857,966,803
February 1, 2019 - February 28, 2019	349,646	$ 142.00	349,646	8,531,142	$ 808,317,006
March 1, 2019 - March 31, 2019	237,822	$ 142.19	237,822	8,293,320	$ 774,500,558
Total	**1,019,409**	**$ 135.58**	**1,019,409**	**8,293,320**	**$ 774,500,558**

(1) On November 5, 2018, the Company announced that the Board of Directors had approved a program to repurchase up to $1.0 billion of the Company's ordinary shares. Repurchases of up to 10,000,000 of the Company's ordinary shares have been authorized by the Company's general meeting of shareholders. The repurchase program will expire on April 21, 2021. The timing and actual number of shares repurchased will depend on a variety of factors, including price, general business and market conditions, and alternative investment opportunities. The repurchase program will be executed consistent with the Company's capital allocation strategy of prioritizing investment to grow the business over the long term.

Item 3. Defaults Upon Senior Securities

None.

Item 5. Other Information

None.

SIGNA TURES

Pursuant to the requirements of the Securities Exchange Act of 1934, the registrant has duly caused this report to be signed on its behalf by the undersigned, thereunto duly authorized.

Spotify Technology S.A.

Date: April 29, 2019

By: /s/ Barry McCarthy
Name: Barry McCarthy
Title: Chief Financial Officer

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UNITED STATES
SECURITIES AND EXCHANGE COMMISSION
Washington, D.C. 20549

FORM 20-F

☐ **REGISTRATION STATEMENT PURSUANT TO SECTION 12(b) OR 12(g) OF THE SECURITIES EXCHANGE ACT OF 1934**

OR

☒ **ANNUAL REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934**

For the fiscal year ended December 31, 2020

OR

☐ **TRANSITION REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934**

OR

☐ **SHELL COMPANY REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934**

Commission File Number: 001-38438

Spotify Technology S.A.
(Exact name of Registrant as specified in its charter)

Grand Duchy of Luxembourg
(Jurisdiction of incorporation)

42-44, avenue de la Gare
L- 1610 Luxembourg
Grand Duchy of Luxembourg
(address of principal executive offices)

Horacio Gutierrez
Head of Global Affairs and Chief Legal Officer
ir@spotify.com
150 Greenwich Street, 63rd Floor
New York, New York 10007
(Name, E-mail and Address of Company Contact Person)

Securities registered or to be registered, pursuant to Section 12(b) of the Act

Title of Each Class	Trading Symbol(s)	Name of Each Exchange on Which Registered
Ordinary Shares (par value of €0.000625 per share)	SPOT	New York Stock Exchange

Securities registered or to be registered pursuant to Section 12(g) of the Act: None

Securities for which there is a reporting obligation pursuant to Section 15(d) of the Act: None

Indicate the number of outstanding shares of each of the issuer's classes of capital or common stock as of the close of the period covered by the annual report: 190,212,847 Ordinary Shares, par value €0.000625 per share.

Indicate by check mark if the registrant is a well-known seasoned issuer, as defined in Rule 405 of the Securities Act. Yes ☒ No ☐

If this report is an annual or transition report, indicate by check mark if the registrant is not required to file reports pursuant to Section 13 or 15(d) of the Securities Exchange Act of 1934. Yes ☐ No ☒

Indicate by check mark whether the registrant (1) has filed all reports required to be filed by Section 13 or 15(d) of the Securities Exchange Act of 1934 during the preceding 12 months (or for such shorter period that the registrant was required to file such reports), and (2) has been subject to such filing requirements for the past 90 days. Yes ☒ No ☐

Indicate by check mark whether the registrant has submitted electronically every Interactive Data File required to be submitted pursuant to Rule 405 of

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Regulation S-T (§ 232.405 of this chapter) during the preceding 12 months (or for such shorter period that the registrant was required to submit such files).
Yes ☒ No ☐

Indicate by check mark whether the registrant is a large accelerated filer, an accelerated filer, a non-accelerated filer, or an emerging growth company. See the definitions of "large accelerated filer," "accelerated filer," and "emerging growth company" in Rule 12b-2 of the Exchange Act.

Large accelerated filer	☒	Accelerated filer	☐	Non-accelerated filer	☐	Emerging growth company	☐

If an emerging growth company that prepares its financial statements in accordance with U.S. GAAP, indicate by check mark if the registrant has elected not to use the extended transition period for complying with any new or revised financial accounting standards provided pursuant to Section 13(a) of the Exchange Act. ☐

Indicate by check mark whether the registrant has filed a report on and attestation to its management's assessment of the effectiveness of its internal control over financial reporting under Section 404(b) of the Sarbanes-Oxley Act (15 U.S.C. 7262(b)) by the registered public accounting firm that prepared or issued its audit report. ☒

Indicate by check mark which basis of accounting the registrant has used to prepare the financial statements included in this filing:

U.S. GAAP ☐	International Financial Reporting Standards as issued by the International Accounting Standards Board ☒	Other ☐

If "Other" has been checked in response to the previous question indicate by check mark which financial statement item the registrant has elected to follow. Item 17 ☐ Item 18 ☐

If this is an annual report, indicate by check mark whether the registrant is a shell company (as defined in Rule 12b-2 of the Exchange Act). Yes ☐ No ☒

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Certain Defined Terms

In this report, unless the context otherwise requires, references to "Company," "we," "us," "our," and "Spotify" refer to Spotify Technology S.A. and its direct and indirect subsidiaries on a consolidated basis.

Note on Presentation

Currency

All references in this report to (i) "Euro," "EUR," or "€" are to the currency of the member states participating in the European Monetary Union, and (ii) "U.S. dollar," "USD," or "$" are to the currency of the United States. Our reporting currency is the Euro.

Presentation of Financial Information

In accordance with International Financial Reporting Standards ("IFRS") as issued by the International Accounting Standards Board ("IASB"), we prepare our consolidated financial statements on a historical cost basis, except for our short term investments, long term investments, Convertible Notes (as defined herein), derivative financial instruments, and contingent consideration, which have been measured at fair value, and our lease liabilities, which are measured at present value.

Non-IFRS Financial Measures

In this report, we present certain financial measures that are not recognized by IFRS and that may not be permitted to appear on the face of IFRS-compliant financial statements or notes thereto.

The only non-IFRS financial measure used in this report is Free Cash Flow. For a discussion of Free Cash Flow and a reconciliation of each to their most closely comparable IFRS measures, see "Item 3.A. Selected Financial Data."

Rounding

Certain monetary amounts, percentages, and other figures included in this report have been subject to rounding adjustments. Accordingly, figures shown as totals in certain tables may not be the arithmetic aggregation of the figures that precede them, and figures expressed as percentages in the text may not total 100% or, as applicable, when aggregated may not be the arithmetic aggregation of the percentages that precede them.

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PART I

Forward-looking Statements

This report contains estimates and forward-looking statements. All statements other than statements of historical fact are forward-looking statements. The words “may,” “might,” “will,” “could,” “would,” “should,” “expect,” “plan,” “anticipate,” “intend,” “seek,” “believe,” “estimate,” “predict,” “potential,” “continue,” “contemplate,” “possible,” and similar words are intended to identify estimates and forward-looking statements.

Our estimates and forward-looking statements are mainly based on our current expectations and estimates of future events and trends, which affect or may affect our businesses and operations. Although we believe that these estimates and forward-looking statements are based upon reasonable assumptions, they are subject to numerous risks and uncertainties and are made in light of information currently available to us. Many important factors may adversely affect our results as indicated in forward-looking statements. These factors include, but are not limited to:

- our ability to attract prospective users and to retain existing users;
- competition for users, user listening time, and advertisers;
- risks associated with our international expansion and our ability to manage our growth;
- our ability to predict, recommend, and play content that our users enjoy;
- our ability to effectively monetize our Service;
- our ability to generate sufficient revenue to be profitable or to generate positive cash flow and grow on a sustained basis;
- risks associated with the expansion of our operations to deliver non-music content, including podcasts, including increased business, legal, financial, reputational, and competitive risks;
- potential disputes or liabilities associated with content made available on our Service;
- risks relating to the acquisition, investment, and disposition of companies or technologies;
- our dependence upon third-party licenses for most of the content we stream;
- our lack of control over the providers of our content and their effect on our access to music and other content;
- our ability to comply with the many complex license agreements to which we are a party;
- our ability to accurately estimate the amounts payable under our license agreements;
- the limitations on our operating flexibility due to the minimum guarantees required under certain of our license agreements;
- our ability to obtain accurate and comprehensive information about the compositions embodied in sound recordings in order to obtain necessary licenses or perform obligations under our existing license agreements;
- new copyright legislation and related regulations that may increase the cost and/or difficulty of music licensing;
- assertions by third parties of infringement or other violations by us of their intellectual property rights;
- our ability to protect our intellectual property;
- the dependence of streaming on operating systems, online platforms, hardware, networks, regulations, and standards that we do not control;
- potential breaches of our security systems;
- interruptions, delays, or discontinuations in service in our systems or systems of third parties;
- changes in laws or regulations affecting us;
- risks relating to privacy and data security;
- our ability to maintain, protect, and enhance our brand;
- payment-related risks;

- our ability to hire and retain key personnel;
- our ability to accurately estimate our user metrics and other estimates;
- risks associated with manipulation of stream counts and user accounts and unauthorized access to our services;
- tax-related risks;
- the concentration of voting power among our founders who have and will continue to have substantial control over our business;
- risks related to our status as a foreign private issuer;
- international, national or local economic, social or political conditions;
- risks associated with accounting estimates, currency fluctuations and foreign exchange controls; and
- the impact of the COVID-19 pandemic on our business and operations, including any adverse impact on advertising sales or subscriber revenue.

Other sections of this report describe additional risk factors that could adversely impact our business and financial performance. Moreover, we operate in an evolving environment. New risk factors and uncertainties emerge from time to time, and it is not possible for our management to predict all risk factors and uncertainties, nor are we able to assess the impact of all of these risk factors on our business or the extent to which any risk factor, or combination of risk factors, may cause actual results to differ materially from those contained in any forward-looking statements.

We qualify all of our forward-looking statements by these cautionary statements. See “Item 3.D. Risk Factors.”

You should read this report and the documents that we have filed as exhibits to this report completely and with the understanding that our actual future results may be materially different from our expectations.

Item 1.Identity of Directors, Senior Management and Advisers

Not applicable.

Item 2.Offer Statistics and Expected Timetable

Not applicable.

Item 3. Key Information

A. Selected Financial Data

Summary of Consolidated Financial and Other Data

The following consolidated financial and other data should be read in conjunction with, and is qualified in its entirety by reference to, the section of this report entitled “Item 5. Operating and Financial Review and Prospects” and our consolidated financial statements and the notes thereto included elsewhere in this report.

The consolidated financial and other data for the years ended December 31, 2020, 2019, and 2018 and as of December 31, 2020 and 2019 have been derived from our audited consolidated financial statements and the notes thereto included elsewhere in this report. We prepared our consolidated financial statements for the years ended December 31, 2020, 2019, and 2018 in accordance with IFRS as issued by the IASB. Please read Note 2 to the consolidated financial statements included elsewhere in this report. Our consolidated financial statements and the notes thereto and other data for the years ended December 31, 2017 and 2016 and as of December 31, 2018, 2017, and 2016 are not included elsewhere in this report.

Our historical results for any prior period are not necessarily indicative of results expected in any future period.

	Year ended December 31,				
	2020	2019	2018	2017	2016
	(in € millions, except share and per share data)				
Consolidated Statement of Operations Data[2]:					
Revenue	7,880	6,764	5,259	4,090	2,952
Cost of revenue	5,865	5,042	3,906	3,241	2,551
Gross profit	2,015	1,722	1,353	849	401
Research and development	837	615	493	396	207
Sales and marketing	1,029	826	620	567	368
General and administrative	442	354	283	264	175
	2,308	1,795	1,396	1,227	750
Operating loss	(293)	(73)	(43)	(378)	(349)
Finance income	94	275	455	118	152
Finance costs	(510)	(333)	(584)	(974)	(336)
Share in (losses)/earnings of associate	—	—	(1)	1	(2)
Finance income/(costs) - net	(416)	(58)	(130)	(855)	(186)
Loss before tax	(709)	(131)	(173)	(1,233)	(535)
Income tax (benefit)/expense	(128)	55	(95)	2	4
Net loss attributable to owners of the parent	(581)	(186)	(78)	(1,235)	(539)
Net loss per share attributable to owners of the parent[1]					
Basic	(3.10)	(1.03)	(0.44)	(8.14)	(3.63)
Diluted	(3.10)	(1.03)	(0.51)	(8.14)	(3.63)
Weighted-average ordinary shares outstanding[1]					
Basic	187,583,307	180,960,579	177,154,405	151,668,769	148,368,720
Diluted	187,583,307	180,960,579	181,210,292	151,668,769	148,368,720
Consolidated Statement of Cash Flows Data[2]:					
Net cash flows from operating activities	259	573	344	179	101
Net cash flows used in investing activities	(372)	(218)	(22)	(435)	(827)
Net cash flows from/(used in) financing activities	285	(203)	92	34	916
Net increase/(decrease) in cash and cash equivalents	172	152	414	(222)	190
Selected Other Data (unaudited):					
Free Cash Flow[3]	183	440	209	109	73

	As of December 31,				
	2020	2019	2018	2017	2016
	(in € millions)				
Consolidated Statement of Financial Position Data[2]:					
Cash and cash equivalents	1,151	1,065	891	477	755
Short term investments	596	692	915	1,032	830
Working capital	(534)	(208)	97	38	689
Total assets	6,326	5,122	4,336	3,107	2,100
Convertible Notes	—	—	—	944	1,106
Total equity/(deficit) attributable to owners of the parent	2,805	2,037	2,094	238	(240)

(1) See Note 11 to our consolidated financial statements for an explanation of the calculations of our basic and diluted net loss per share attributable to owners of the parent as well as our basic and diluted weighted-average ordinary shares outstanding.

(2) The 2016 – 2018 results have not been restated for the impact of IFRS 16, *Leases*, which was adopted on January 1, 2019 using the modified retrospective approach. See Notes 2 and 12 to the consolidated financial statements for further information.

(3) We define "Free Cash Flow" as net cash flows from/(used in) operating activities less capital expenditures and change in restricted cash. We believe Free Cash Flow is a useful supplemental financial measure for us and investors in assessing our ability to pursue business opportunities and investments and to service our debt. Free Cash Flow is not a measure of our liquidity under IFRS and should not be considered as an alternative to net cash flows from/(used in) operating activities.

Free Cash Flow is a non-IFRS measure and is not a substitute for IFRS measures in assessing our overall financial performance. Because Free Cash Flow is not a measurement determined in accordance with IFRS, and is susceptible to varying calculations, it may not be comparable to other similarly titled measures presented by other companies. You should not consider Free Cash Flow in isolation, or as a substitute for an analysis of our results as reported on our consolidated financial statements appearing elsewhere in this report.

Free Cash Flow:

	Year ended December 31,				
	2020	2019	2018	2017	2016
	(in € millions)				
Net cash flows from operating activities	259	573	344	179	101
Capital expenditures	(78)	(135)	(125)	(36)	(27)
Change in restricted cash	2	2	(10)	(34)	(1)
Free Cash Flow	183	440	209	109	73

B. Capitalization and Indebtedness.

Not applicable.

C. Reasons for the Offer and Use of Proceeds.

Not applicable.

D. Risk Factors

An investment in our ordinary shares involves a high degree of risk. You should carefully read and consider the following risks, along with the other information included in this Annual Report on Form 20-F. The risks described below may not be the only ones we face. If any of the risks actually occur, our business, results of operations, financial condition, and cash flow could be materially impaired. The trading price of our ordinary shares could decline due to any of these risks, and you could lose all or part of your investment. The risks described below are organized by risk type and are not listed in order of their priority to us.

Summary Risk Factors

Risks Related to Our Business Model, Strategy, and Performance

- We face significant competition and we might not be successful at attracting and retaining users, including predicting, recommending, and playing content that our users enjoy.
- We face many risks associated with our growth and our international expansion, including attracting, retaining and motivating qualified personnel and obtaining rights to stream content on favorable terms.
- Our business emphasizes rapid innovation and prioritizes long-term user engagement over short-term results. That strategy may not align with the market's expectations.
- We may not be able to effectively monetize our Service on mobile and other connected devices.
- We may not be able to generate sufficient revenue to be profitable, or to generate positive cash flow on a sustained basis. In addition, our revenue growth rate may decline.
- Any failure to convince advertisers of the benefits of advertising on our Service in the future could harm our business, operating results, and financial condition.
- Emerging industry trends in digital advertising may pose challenges for our ability to forecast or optimize our advertising inventory, which may adversely impact our Ad-Supported revenue.
- We may be subject to disputes or liabilities associated with our content, and our expansion into non-music content also subjects us to increased risks.

- Our continued interest in acquisition or investment could divert management's attention and disrupt our operations. We may fail to complete strategic acquisitions or investments.
- Any adverse change to, loss of, or claim that we do not hold any necessary third-party licenses may materially adversely affect our business, operating results, and financial condition.
- The concentration of control of content by our major providers means they may unilaterally affect our access to music and other content.
- We are a party to many license agreements that are complex and with numerous obligations, including a complex royalty payment scheme, and a breach of such agreements could adversely affect our business, operating results and financial condition.
- Minimum guarantees under certain license agreements may limit our operating flexibility.
- Difficulties in identifying the compositions in our sound recordings and the ownership thereof may impact our ability to perform our obligations under our licenses.
- Assertions of infringement or other violation by us of third-party intellectual property rights, or failure to protect our own intellectual property, could harm our business.
- The limitations on our ability to access online platforms, operating systems, hardware, or networks may seriously harm our business.
- Our Service and software may contain undetected software bugs or vulnerabilities.
- Interruptions, delays, or discontinuations in service arising from our own systems or from third parties, such as Google Cloud Platform, could impair the delivery of our Service.
- Our business is subject to complex and evolving laws and regulations, including laws and regulations related to copyright, privacy and data security, which may increase the costs and/or difficulty of music licensing, pose the threat of lawsuits, regulatory fines and other liabilities.
- Other risks such as failure to protect our brand, payments-related risks, fluctuation of our operating results, failure to implement and maintain effective internal control over financial reporting, lack of additional capital to support our growth, global public health crisis such as COVID-19, changes of worldwide economic conditions and significant fluctuations of exchange rates, may adversely affect our business, operating results, and financial condition.

Risks Related to Our Metrics

- Our user metrics and other estimates are subject to inherent challenges in measurement, and real or perceived inaccuracies may harm and negatively affect our reputation and our business.
- We are at risk of artificial manipulation of stream counts, and manipulation or exploitation of our software to gain or provide unauthorized access to certain features of our Service, and failure to effectively prevent and remediate such attempts could undermine investor confidence in the integrity of our key performance indicators.

Risks Related to Tax

- We face complex taxation regimes in various jurisdictions. Audits, investigations, tax proceedings and changes to tax laws, including new proposals on taxing digital companies, in any of the jurisdictions we operate, could have a material adverse effect on our business, operating results, and financial condition.
- We may not be able to utilize all, or any, of our net operating loss carry-forwards.
- The social costs we accrue for share-based compensation may fluctuate unpredictably and significantly with the trading price of our ordinary shares, which could adversely impact our financial performance.
- We may be classified as a passive foreign investment company, which could result in adverse U.S. federal income tax consequences to U.S. Holders of our ordinary shares.
- If a United States person is treated as owning at least 10% of our ordinary shares, such holder may be subject to adverse U.S. federal income tax consequences.

Risks Related to Owning Our Ordinary Shares and Our Status as a Foreign Private Issuer

- Our founders have substantial control over our business, and sales of substantial amounts of our ordinary shares by our founders could reduce the price of our ordinary shares.
- If securities or industry analysts publish inaccurate or unfavorable research about our business or cease covering our business, our share price and trading volume could decline.
- The requirements of being a public company may strain our resources and divert management's attention.
- Provisions in our articles of association, the issuance of beneficiary certificates, and the existence of certain voting agreements may delay or prevent our acquisition by a third party.
- We do not expect to pay cash dividends in the foreseeable future.
- The issuance of beneficiary certificates to certain shareholders will limit your voting power and your ability to influence our corporate governance.

- As a foreign private issuer, we are exempt from a number of U.S. securities laws and rules promulgated thereunder and the rights of our shareholders may differ from those of shareholders of a U.S. corporation.
- We are organized under the laws of Luxembourg and a substantial amount of our assets are not located in the United States. It may be difficult for you to obtain or enforce judgments or bring original actions against us or the members of our board of directors in the United States.
- Luxembourg and European insolvency and bankruptcy laws are substantially different from U.S. insolvency laws and may offer our shareholders less protection than U.S. insolvency and bankruptcy law.

Risks Related to Our Business Model, Strategy, and Performance

If our efforts to attract prospective users and to retain existing users are not successful, our growth prospects and revenue will be adversely affected.

Our ability to grow our business and generate revenue depends on retaining, expanding, and effectively monetizing our total user base, including by increasing advertising revenue on our ad-supported service ("Ad-Supported Service"), increasing the number of subscribers to our premium service ("Premium Service", and together with the Ad-Supported Service, the "Service"), and finding ways to monetize content across the Service. We must convince prospective users of the benefits of our Service and our existing users of the continuing value of our Service. Our ability to attract new users, retain existing users, and convert users of our Ad-Supported Service ("Ad-Supported Users") to subscribers to our Premium Service ("Premium Subscribers") depends in large part on our ability to continue to offer leading technologies and products, compelling content, superior functionality, and an engaging user experience. Some of our competitors, including Apple, Amazon, and Google, have developed, and are continuing to develop, devices for which their audio streaming services are preloaded or may also be set as the default providers, which puts us at a significant competitive disadvantage. As consumer tastes and preferences change on the internet and with mobile devices and other internet-connected products, we will need to enhance and improve our existing Service, introduce new services and features, and maintain our competitive position with additional technological advances and an adaptable platform. If we fail to keep pace with technological advances or fail to offer compelling product offerings and state-of-the-art delivery platforms to meet consumer demands, our ability to grow or sustain the reach of our Service, attract and retain users, and increase our Premium Subscriber base may be adversely affected.

In addition, in order to increase our advertising revenue, we also seek to increase the listening time that our Ad-Supported Users spend on our Ad-Supported Service and find new opportunities to deliver advertising to users on the Service, such as through podcasts and other opportunities relating to content promotion to users. The more content users stream on our Service, the more advertising inventory we generally have to sell. Further, growth in our user base increases the size and scope of user pools targeted by advertisers, which improves our ability to deliver relevant advertising to those users in a manner that maximizes our advertising customers' return on investment and that ultimately allows us to better demonstrate the effectiveness of our advertising solutions and justifies a pricing structure that is advantageous for us. If we fail to grow our user base, the amount of content streamed, and the listening time that our users spend on our Ad-Supported Service or on podcasts, we may be unable to grow Ad-Supported revenue. Moreover, given that Premium Subscribers are sourced primarily from the conversion of our Ad-Supported Users to Premium Subscribers, any failure to grow our Ad-Supported User base or convert Ad-Supported Users to Premium Subscribers may negatively impact our revenue.

In order to increase our Ad-Supported Users and our Premium Subscribers, we will need to address a number of challenges, including:

- providing users with a consistently high-quality and user-friendly experience;
- continuing to curate a catalog of content that consumers want to engage with on our Service;
- continuing to innovate and keep pace with changes in technology and our competitors; and
- maintaining and building our relationships with the makers of consumer products such as mobile devices.

Failure to overcome any one of these challenges could have a material adverse effect on our business, operating results, and financial condition.

We face and will continue to face significant competition for users, user listening time, and advertisers.

We compete for the time and attention of our users with other content providers on the basis of a number of factors, including quality of experience, relevance, diversity of content, ease of use, price, accessibility, perception of advertising load, brand awareness, reputation, and presence and visibility of our website and our Spotify application. Our competitors include providers of streamed and on-demand music and podcasts as well as internet radio, terrestrial radio, and satellite radio. See "Item 4.B. Business Overview—Competition" for a description of certain services that compete with us.

Our current and future competitors may have higher brand recognition, more established relationships with content licensors and mobile device manufacturers, greater financial, technical, and other resources, more sophisticated technologies, and/or more experience in the markets in which we compete. Our current and future competitors may also engage in mergers or acquisitions with each other, as SiriusXM and Pandora, or Amazon Music and Wondery, have done, to combine and leverage their audiences, content, and capabilities. Our current and future competitors may innovate new features or introduce new ways of consuming or engaging with content that cause our users, especially the younger demographic, to switch to another product, which would negatively affect our user retention, growth, and engagement. Some of our larger competitors, such as Apple and Amazon, have substantially broader product offerings and offer bundled or integrated products and services to leverage their relationships based on other products in their ecosystem to gain subscribers, which could discourage users from subscribing to our Service. Apple, Amazon, and Google also own application store platforms and are charging in-application purchase fees, which may not be levied on their own applications, likely creating a competitive advantage for themselves against us. If other competitors that own application store platforms and competitive services adopt similar practices, we may be similarly impacted. As the market for on-demand audio on the internet and mobile and connected devices increases, new competitors, business models, and solutions are likely to emerge. We believe that companies with a combination of technical expertise, brand recognition, financial resources, and digital media experience pose a significant threat of developing competing on-demand audio distribution technologies.

We also compete for users based on our presence and visibility as compared with other businesses and platforms that deliver audio content through the internet and connected devices. We face significant competition for users from companies promoting their own digital audio content online or through application stores, including several large, well-funded, and seasoned participants in the digital media market. Device application stores often offer users the ability to browse applications by various criteria, such as the number of downloads in a given time period, the length of time since an application was released or updated, or the category in which the application is placed. The websites and applications of our competitors may rank higher than our website and our Spotify application, and our application may be difficult to locate in device application stores, which could draw potential users away from our Service and toward those of our competitors. In addition, some of our competitors, including Apple, Amazon, and Google, have developed, and are continuing to develop, devices for which their music and/or podcast streaming service is preloaded and/or able to be used out-of-the-box without the need to log in, creating a visibility and access advantage. If we are unable to compete successfully for users against other digital media providers by maintaining and increasing our presence, ease of use, and visibility online, on devices, and in application stores, our number of Premium Subscribers, Ad-Supported Users, and the amount of content streamed on our Service may fail to increase or may decline and our subscription fees and advertising sales may suffer. See "—If our efforts to attract prospective users and to retain existing users are not successful, our growth prospects and revenue will be adversely affected."

We compete for a share of advertisers' overall marketing budgets with other content providers on a variety of factors, including perceived return on investment, effectiveness and relevance of our advertising products, pricing structure, and ability to deliver large volumes or precise types of advertisements to targeted user demographic pools. We also compete for advertisers with a range of internet companies, including major internet portals, search engine companies, social media sites, and mobile applications, as well as traditional advertising channels such as terrestrial radio and television.

Large internet companies with strong brand recognition, such as Facebook, Google, Amazon, and Twitter, have significant numbers of sales personnel, substantial advertising inventory, proprietary advertising technology solutions, and traffic across web, mobile, and connected devices that provide a significant competitive advantage and have a significant impact on pricing for reaching these user bases. Failure to compete successfully against our current or future competitors could result in the loss of current or potential advertisers, a reduced share of our advertisers' overall marketing budget, the loss of existing or potential users, or diminished brand strength, which could adversely affect our pricing and margins, lower our revenue, increase our research and development and marketing expenses, and prevent us from achieving or maintaining profitability.

We face many risks associated with our international expansion, including difficulties obtaining rights to stream content on favorable terms.

We are continuing to expand our operations into additional international markets. However, offering our Service in a new geographical area involves numerous risks and challenges. For example, the licensing terms offered by rights organizations and individual copyright owners in countries around the world are currently expensive. Addressing licensing structure and royalty rate issues in any new geographic market requires us to make very substantial investments of time, capital, and other resources, and our business could fail if such investments do not succeed. There can be no assurance that we will succeed or achieve any return on these investments.

In addition to the above, continued expansion around the world exposes us to other risks such as:

- lack of well-functioning copyright collective management organizations that are able to grant us music licenses, process reports, and distribute royalties in markets;

- fragmentation of rights ownership in various markets causing lack of transparency of rights coverage and overpayment or underpayment to record labels, music publishers, artists, performing rights organizations, and other copyright owners;
- difficulties in obtaining license rights to local content;
- increased risk of disputes with and/or lawsuits filed by rights holders in connection with our expansion into new markets (see "Item 8.A. Consolidated Statements and Other Financial Information—Legal or Arbitration Proceedings");
- difficulties in achieving market acceptance of our Service in different geographic markets with different tastes and interests;
- difficulties in achieving viral marketing growth in certain other countries where we commit fewer sales and marketing resources;
- difficulties in managing operations due to language barriers, distance, staffing, user behavior and spending capability, cultural differences, business infrastructure constraints, and laws regulating corporations that operate internationally;
- application of different laws and regulations of other jurisdictions, including privacy, censorship, and liability standards and regulations, as well as intellectual property laws;
- potential adverse tax consequences associated with foreign operations and revenue;
- complex foreign exchange fluctuation and associated issues;
- increased competition from local websites and audio content providers, some with financial power and resources to undercut the market or enter into exclusive deals with local content providers to decrease competition;
- credit risk and higher levels of payment fraud;
- political and economic instability in some countries;
- region-specific effects of the COVID-19 pandemic;
- compliance with the U.S. Foreign Corrupt Practices Act, the U.K. Bribery Act, and similar laws in other jurisdictions;
- export controls and economic sanctions administered by the U.S. Department of Commerce's Bureau of Industry and Security and the U.S. Department of the Treasury's Office of Foreign Assets Control;
- restrictions on international monetary flows; and
- reduced or ineffective protection of our intellectual property rights in some countries.

As a result of these obstacles, we may find it impossible or prohibitively expensive to enter additional markets, or entry into foreign markets could be delayed, which could hinder our ability to grow our business.

If we fail to effectively manage our growth, our business, operating results, and financial condition may suffer.

Our rapid growth has placed, and will continue to place, significant demands on our management and our operational and financial infrastructure. In order to attain and maintain profitability, we will need to recruit, integrate, and retain skilled and experienced personnel who can demonstrate our value proposition to users, advertisers, and business partners and who can increase the monetization of the music and podcasts streamed on our Service, particularly on mobile devices. Continued growth could also strain our ability to maintain reliable service levels for our users, effectively monetize the music and podcasts streamed, develop and improve our operational and financial controls, and recruit, train, and retain highly skilled personnel. If our systems do not evolve to meet the increased demands placed on us by an increasing number of advertisers, we also may be unable to meet our obligations under advertising agreements with respect to the delivery of advertising or other performance obligations. As our operations grow in size, scope, and complexity, we will need to improve and upgrade our systems and infrastructure, which will require significant expenditures and allocation of valuable technical and management resources. If we fail to maintain efficiency and allocate limited resources effectively in our organization as it grows, our business, operating results, and financial condition may suffer.

We have experienced rapid growth rates in both the number of active users of our Service and revenue over the last few years. As we grow larger and increase our user base and usage, we expect it will become increasingly difficult to maintain the rate of growth we currently experience.

Our business emphasizes rapid innovation and prioritizes long-term user engagement over short-term financial condition or results of operations. That strategy may yield results that sometimes do not align with the market's expectations. If that happens, our stock price may be negatively affected.

Our business is growing and becoming more complex, and our success depends on our ability to quickly develop and launch new and innovative products. We believe our culture fosters this goal. Our focus on complexity and quick reactions could result in unintended outcomes or decisions that are poorly received by our users, advertisers, or partners. We have made, and expect to continue to make, significant investments to develop and launch new products, services, and initiatives, which may involve significant risks and uncertainties, including the fact that such offerings may not be commercially viable for an indefinite period of time or at all, or may not result in adequate return of capital on our investments. No assurance can be given that such new offerings will be successful and will not adversely affect our reputation, operating results, and financial

condition. Our culture also prioritizes our long-term user engagement over short-term financial condition or results of operations. We frequently make decisions that may reduce our short-term revenue or profitability if we believe that the decisions benefit the aggregate user experience and will thereby improve our financial performance over the long term. These decisions may not produce the long-term benefits that we expect, in which case our user growth and engagement, our relationships with advertisers and partners, as well as our business, operating results, and financial condition could be seriously harmed.

If we fail to accurately predict, recommend, and play content that our users enjoy, we may fail to retain existing users and attract new users in sufficient numbers to meet investor expectations for growth or to operate our business profitably.

We believe that a key differentiating factor between Spotify and other audio content providers is our ability to predict music or podcasts that our users will enjoy. Our system for predicting user preferences and selecting content tailored to our users' individual tastes is based on advanced data analytics systems and our proprietary algorithms. We have invested, and will continue to invest, significant resources in refining these technologies; however, we cannot assure you that such investments will yield an attractive return or that such refinements will be effective. The effectiveness of our ability to predict user preferences and select content tailored to our users' individual tastes depends in part on our ability to gather and effectively analyze large amounts of user data. In addition, our ability to offer users content that they have not previously heard and impart a sense of discovery depends on our ability to acquire and appropriately categorize additional content that will appeal to our users' diverse and changing tastes. While we have a large catalog of music and podcasts available to stream, we must continuously identify and analyze additional content that our users will enjoy and we may not effectively do so. Our ability to predict and select content that our users enjoy is critical to the perceived value of our Service among users and failure to make accurate predictions could materially adversely affect our ability to adequately attract and retain users, increase content hours consumed, and sell advertising to meet investor expectations for growth or to operate the business profitably.

If we are unable to effectively monetize our Service on mobile and other connected devices, our results of operations may be materially adversely affected.

Our business model with respect to monetization of our Service on mobile and other connected devices is still evolving. As users migrate away from personal computers, there is increasing pressure to monetize mobile and other connected devices, including cars and in-home devices. We offer our Ad-Supported Service on mobile, from which we generate advertising revenue. However, to date, we primarily rely on our Premium Service to generate revenue on mobile and other connected devices. If we are unable to effectively monetize our Service on mobile and other connected devices, our business, operating results, and financial condition may suffer.

We have incurred significant operating losses in the past, and we may not be able to generate sufficient revenue to be profitable, or to generate positive cash flow on a sustained basis. In addition, our revenue growth rate may decline.

Since our inception in April 2006, we have incurred significant operating losses and, as of December 31, 2020, had an accumulated deficit of €3,290 million. For the years ended December 31, 2020, 2019, and 2018, our operating losses were €293 million, €73 million, and €43 million, respectively. We have incurred significant costs to license content and continue to pay royalties to record labels, publishers, and other copyright owners for such content. If we cannot successfully earn revenue at a rate that exceeds the operational costs, including royalty expenses, associated with our Service, we will not be able to achieve or sustain profitability or generate positive cash flow on a sustained basis.

Furthermore, we cannot assure you that the growth in revenue we have experienced over the past few years will continue at the same rate or even continue to grow at all. We expect that, in the future, our revenue growth rate may decline because of a variety of factors, including increased competition and the maturation of our business. You should not consider our historical revenue growth or operating expenses as indicative of our future performance. If our revenue growth rate declines or our operating expenses exceed our expectations, our financial performance may be adversely affected.

Additionally, we also expect our costs to increase in future periods, which could negatively affect our future operating results and ability to achieve profitability. We expect to continue to expend substantial financial and other resources on:

- securing top quality audio and video content from leading record labels, distributors, and aggregators, as well as the publishing right to any underlying musical compositions;
- creating new forms of original content;
- our technology infrastructure, including website architecture, development tools, scalability, availability, performance, security, and disaster recovery measures;
- research and development, including investments in our research and development team and the development of new features;
- sales and marketing, including a significant expansion of our field sales organization;
- international expansion in an effort to increase our member base, engagement, and sales;

- capital expenditures, including costs related to our facilities, that we will incur to grow our operations and remain competitive; and
- general administration, including legal and accounting expenses.

These investments may not result in increased revenue or growth in our business. If we fail to continue to grow our revenue and overall business, our business, operating results, and financial condition would be harmed.

We rely on advertising revenue to monetize our Service, and any failure to convince advertisers of the benefits of advertising on our Service in the future could harm our business, operating results, and financial condition.

Our ability to attract and retain advertisers, and ultimately to generate advertising revenue, depends on a number of factors, including:

- increasing the number of hours our Ad-Supported Users spend listening to audio or otherwise engaging with content on our Ad-Supported Service and the number of Ad-Supported Users;
- increasing the number of hours our users spend listening to podcasts and the number of our users listening to podcasts;
- keeping pace with changes in technology and our competitors;
- competing effectively for advertising dollars with other online and mobile marketing and media companies;
- maintaining and growing our relationships with marketers, agencies, and other demand sources who purchase advertising inventory from us;
- continued impact from the COVID-19 pandemic on marketers;
- implementing and maintaining an effective infrastructure for order management; and
- continuing to develop and diversify our advertising platform and offerings, which currently include delivery of advertising products through multiple delivery channels, including traditional computers, mobile, and other connected devices, and multiple content types, including podcasts.

We may not succeed in capturing a greater share of our advertisers' core marketing budgets, particularly if we are unable to achieve the scale, reach, products, and market penetration necessary to demonstrate the effectiveness of our advertising solutions, or if our advertising model proves ineffective or not competitive when compared to other alternatives and platforms through which advertisers choose to invest their budgets.

Failure to grow the Ad-Supported User base and to effectively demonstrate the value of our Ad-Supported Service and other similar offerings on the Service to advertisers could result in loss of, or reduced spending by, existing or potential future advertisers, which would materially harm our business, operating results, and financial condition. In addition, macroeconomic conditions may affect advertisers' spending. For example, we have experienced a decline in Ad-Supported revenue growth as a result of headwinds to our advertising business during the COVID-19 pandemic, which, given the market uncertainty, could continue and adversely affect our business, operating results, and financial condition.

Selling advertisements requires that we demonstrate to advertisers that our offerings on the Service are effective. For example, we need to show that our Service has substantial reach and engagement by relevant demographic audiences. Some of our demographic data may be incomplete or inaccurate. For example, because our users self-report their personal data, which may include their genders and dates of birth, the personal data we have may differ from our users' actual genders and ages. If our users provide us with incorrect or incomplete information regarding their personal data, such as genders, age, or other attributes we use to target advertisements to users, or the data are otherwise not available to us, then we may fail to target the correct demographic with our advertising. In addition, changes to operating systems' practices and policies, such as Apple's iOS updates that may impose new requirements in order to track users or otherwise access Apple's Identifiers for Advertisers ("IDFA"), may reduce the quantity and quality of the data and metrics that can be collected or used by us and our partners. These limitations may also adversely affect our and our advertisers' ability to target advertisements and measure their performance, which could reduce the demand and pricing for our advertising products and harm our business. Advertisers often rely on third parties to quantify the reach and effectiveness of our ad products. These third-party measurement services may not reflect our true audience or the performance of our ad products, and their underlying methodologies are subject to change at any time. In addition, the methodologies we apply to measure the key performance indicators that we use to monitor and manage our business may differ from the methodologies used by third-party measurement service providers, who may not integrate effectively with our Service. Measurement technologies for mobile devices may be even less reliable in quantifying the reach and usage of our Service, and it is not clear whether such technologies will integrate with our systems or uniformly and comprehensively reflect the reach, usage, or overall audience composition of our Service. If such third-party measurement providers report lower metrics than we do, there is wide variance among reported metrics, or we cannot adequately integrate with such services that advertisers require, our ability to convince advertisers of the benefits of our Service could be adversely affected. See "—Our user metrics and other estimates are subject to inherent challenges in measurement, and real or perceived inaccuracies in those metrics may seriously harm and negatively affect our reputation and our business."

Emerging industry trends in digital advertising may pose challenges for our ability to forecast or optimize our advertising inventory, which may adversely impact our Ad-Supported revenue.

The digital advertising industry is introducing new ways to measure and price advertising inventory. In the absence of a uniform industry standard, agencies, advertisers, and other third parties have adopted several different measurement methodologies and standards. In addition, measurement services may require technological integrations, which are still being evaluated by the advertising industry without an agreed-upon industry standard metric. Other advertisers will measure the effectiveness of their advertising campaigns based on our ability to serve their ads to audiences that match their demographic data benchmarks, and our ability to meet the requirements of these third party measurement providers may be impacted when we do not have accurate or complete user data. As these trends in the industry continue to evolve, our advertising revenue may be adversely affected by the availability, accuracy, and utility of analytics and measurement technologies as well as our ability to successfully implement and operationalize such technologies and standards. For example, we have introduced Streaming Ad Insertion ("SAI") technology to improve our targeting and measurement capabilities for podcast advertising that rely on our streaming capabilities instead of using downloads as a proxy. However, the impact of the shift in measurement from downloads to real impressions on our advertising revenue is uncertain, as well as its acceptance by our advertising partners or our ability to scale this technology successfully.

Further, the digital advertising industry is shifting to data-driven technologies and advertising products, such as automated buying. These data-driven advertising products and automated buying technologies allow publishers and advertisers to use data to target advertising toward specific groups of users who are more likely to be interested in the advertising message delivered to them. These advertising products and programmatic technologies may not integrate with our Service, especially our desktop software version, as they are currently more technologically developed and more widely adopted by the advertising industry on the web than they are on mobile or on other software applications. Because the majority of our Ad-Supported User hours and podcast consumption occur on mobile devices, if we are unable to deploy effective solutions to monetize the mobile device usage by our Ad-Supported User base, our ability to attract advertising spend, and ultimately our advertising revenue, may be adversely affected by this shift. In addition, we rely on third-party advertising technology platforms to participate in automated buying, and if these platforms cease to operate or experience instability in their business models, it also may adversely affect our ability to capture advertising spend. The evolution of privacy laws, including the GDPR, CCPA, CPRA, the ePrivacy Regulation (which is still in draft form), and LGPD (each as defined below), may also impact the way we generate revenue from advertising.

Expansion of our operations to deliver non-music content, including podcasts, subjects us to increased business, legal, financial, reputational, and competitive risks.

Expansion of our operations to deliver non-music content involves numerous risks and challenges, including increased capital requirements, new competitors, and the need to develop new strategic relationships. Growth in these areas may require additional changes to our existing business model and cost structure, modifications to our infrastructure, and exposure to new regulatory, legal and reputational risks, including infringement liability, any of which may require additional expertise that we currently do not have. See "—We may be subject to disputes or liabilities associated with content made available on our Service." There is no guarantee that we will be able to generate sufficient revenue from podcasts or other non-music content to offset the costs of creating or acquiring this content. Failure to successfully monetize and generate revenues from such content, including failure to obtain or retain rights to podcasts or other non-music content on acceptable terms, or at all, or to effectively manage the numerous risks and challenges associated with such expansion, could adversely affect our business, operating results, and financial condition.

In addition, we enter into multi-year commitments for original content that we produce or commission. Given the multiple-year duration and largely fixed cost nature of such commitments, if our user growth and retention do not meet our expectations, our margins may be adversely impacted. Payment terms for certain content that we produce or commission will typically require more upfront cash payments than other content licenses or arrangements whereby we do not pay for the production of such content. To the extent our user and/or revenue growth do not meet our expectations, our liquidity and results of operations could be adversely affected as a result of such content commitments. The long-term and fixed cost nature of certain original content commitments may also limit our flexibility in planning for or reacting to changes in our business, as well as our ability to adjust our content offering if our users do not react favorably to the content we produce. Any such event could adversely impact our business, operating results, and financial condition.

We may be subject to disputes or liabilities associated with content made available on our Service.

We provide various services and products that enable artists, podcasters, and other creators or users to make content available on our Service. For example, creators or users can record and distribute podcasts using Anchor and can upload cover art and profile images. These may subject us to heightened risk of claims of intellectual property infringement by third parties if such creators do not obtain the appropriate authorizations from rights holders. We are dependent on those who provide content

on our Service complying with the terms and conditions of any license agreements with us as well as our Terms and Conditions of Use, which prohibit providing content that infringes the intellectual property or proprietary rights of third parties or is otherwise legally actionable pursuant to privacy and/or publicity rights. However, we cannot guarantee that the creators and users who provide content on our Service will comply with their obligations, and any failure of creators and users to do so may materially impact our business, operating results, and financial condition. In addition, while we may avail ourselves of various legal safe harbors related to third-party content, we cannot be certain that courts will always agree that these safe harbors apply. We also face a risk that the laws related to these safe harbors or the removal of content could change. Changes in any such laws that shield us from liability could materially harm our business, operating results, and financial condition. See "Risk Related to Our Operations—Our business is subject to complex and evolving laws and regulations around the world. Many of these laws and regulations are subject to change and uncertain interpretation, and could result in claims, changes to our business practices, monetary penalties, increased cost of operations, or otherwise harm our business."

We also cannot guarantee the integrity of the content third parties make available on our Service, which may adversely affect our reputation and our business. Given the large volume of content that various third parties, including record labels, distributors, aggregators, podcasters, and our users, make available on our platform, it is challenging for us to accurately verify the legitimacy of such content, including their copyright status and whether such content implicates the legal rights of third parties, or review and moderate such content to ensure that it is otherwise in compliance with our policies. If we fail to build and maintain an effective system to moderate the content on our platform, our users may lose trust in us, our reputation may be impaired and our business may be adversely affected. See "Risks Related to Our Operations—Our business depends on a strong brand, and any failure to maintain, protect, and enhance our brand could harm our business."

We have acquired and invested in, and may continue to acquire or invest in, other companies or technologies, which could divert management's attention and otherwise disrupt our operations and harm our operating results. We may fail to acquire or invest in companies whose market power or technology could be important to the future success of our business.

We have recently acquired and invested in, and may in the future seek to acquire or invest in, other companies or technologies that we believe could complement or expand our Service, enhance our technical capabilities or content offerings, or otherwise offer growth opportunities. Pursuit of future potential acquisitions or investments may divert the attention of management and cause us to incur various expenses in identifying, investigating, and pursuing suitable opportunities, whether or not they are consummated. In addition, we may be unsuccessful in integrating our recently acquired businesses or any additional business we may acquire in the future, and we may fail to acquire companies whose market power or technology could be important to the future success of our business.

We also may not achieve the anticipated benefits from any acquisition or investment due to a number of factors, including:

- unanticipated costs or liabilities associated with the acquisition or investment, including costs or liabilities arising from the acquired companies' failure to comply with intellectual property laws and licensing obligations they are subject to;
- incurrence of acquisition- or investment-related costs;
- diversion of management's attention from other business concerns;
- regulatory uncertainties;
- risks related to integrating the acquired company's various systems and processes and ensuring compliance with applicable requirements, including those with respect to privacy, data security, or credit card processing;
- implementation or improvement of controls, procedures, and policies at the acquired company;
- harm to our existing business relationships with business partners and advertisers as a result of the acquisition or investment;
- harm to our brand and reputation;
- the potential loss of key employees;
- work stoppages associated with labor disputes;
- use of resources that are needed in other parts of our business; and
- use of substantial portions of our available cash to consummate the acquisition or investment.

If we acquire or invest in other companies, these acquisitions or investments may reduce our operating margins for the foreseeable future. In addition, a significant portion of the purchase price of companies we acquire may be allocated to acquired goodwill, which must be assessed for impairment at least annually. The market value of our investments may also fluctuate due to volatility in the share price used to measure the investment. For example, the majority of our long term investments relates to Tencent Music Entertainment ("TME"). The value of these securities is subject to the risks associated with TME's business, as well as any changes by the Chinese government in foreign investment laws or elevated scrutiny or regulation of foreign investments in Chinese companies. See "Item 11. Quantitative and Qualitative Disclosures About Market Risk—Investment Risk" for additional discussion of the risk relating to our long term investment in TME. In the future, if our acquisitions or investments do not yield expected returns, we may be required to take charges to our operating results based on this impairment assessment process. Acquisitions or investments could also result in dilutive issuances of equity securities or the incurrence of

debt, which could adversely affect our operating results. In addition, if a business we acquire or invest in fails to meet our expectations, our business, operating results, and financial condition may suffer.

We have also entered into, and may in the future enter into, additional, strategic alliances with certain partners that we believe will help advance the success of our business. Such partnerships may divert management focus and resources from other aspects of our business, it may take longer than expected for them to produce the expected benefits, they may subject us to additional and unknown licensing or regulatory requirements across different jurisdictions, and they on occasion fail to produce all of the expected benefits. The success of these partnerships will depend in part on our ability to leverage them to enhance our Service and other products, or to develop new services and products, and we may not be successful in doing so. Any adverse results related to our strategic partnerships could negatively impact our business, operating results, and financial condition.

The COVID-19 pandemic has had, and could continue to have, an adverse impact on our business, operating results, and financial condition.

The COVID-19 pandemic has created significant volatility, uncertainty, and economic disruption. The full extent to which the COVID-19 pandemic will continue to impact our business, financial condition, and results of operations will depend on numerous evolving factors that we may not be able to accurately predict and that will vary by market, including the duration and scope of the pandemic, the impact of the pandemic on economic activity, and actions taken by governments, businesses, and individuals in response. The economic disruption caused by the COVID-19 pandemic has adversely affected, and could continue to adversely affect, the levels of advertising spending and consumer spending on discretionary items, which in turn adversely affect our ad sales and Subscriber revenue. Limitations on travel, “stay at home” orders, social distancing requirements, and other governmental actions implemented in response to COVID-19 led to changes as to how our users consume music and podcasts, and, although we have seen some return to pre-COVID-19 levels in our users’ engagement with our Service, any failure to predict or address changes in our users’ engagement with our Service arising from the COVID-19 pandemic could adversely affect our business. As a result of the COVID-19 pandemic, podcasters and other creators or users may experience delays or interruptions in their ability to create and provide content on our platform, and a decrease in the amount or quality of content available on our Service could adversely affect user engagement and harm our business. An extended period of remote working by our employees could introduce or heighten operational challenges, including our ability to launch new products and services or expand our Service to additional geographic markets. Any such effect could cause or contribute to the risks and uncertainties enumerated in this report and could materially adversely affect our business, operating results, and financial condition.

Risks Related to Securing the Rights to the Content We Stream

We depend upon third-party licenses for most of the content we stream and an adverse change to, loss of, or claim that we do not hold any necessary licenses may materially adversely affect our business, operating results, and financial condition.

To secure the rights to stream content, we enter into license agreements to obtain licenses from rights holders, such as record labels, aggregators, artists, music publishers, performing rights organizations, collecting societies, podcasters, podcast networks, and other audio/video content creators, copyright owners or their agents, or obtain licenses via government-provided statutory or compulsory licenses, and pay royalties or other consideration to such parties or their agents around the world. We cannot guarantee that our efforts to obtain all necessary licenses to stream content will be successful, nor that the licenses available to us now will continue to be available in the future at rates and on terms that are favorable or commercially reasonable or at all. The terms of these licenses, including the royalty rates that we are required to pay pursuant to them, may change as a result of changes in our bargaining power, the industry, laws and regulations, or for other reasons. Increases in royalty rates or changes to other terms of these licenses may materially impact our business, operating results, and financial condition.

For example, if we fail to obtain licenses to stream sound recordings from major record labels; if the rates we pay for mechanical licenses that are set by the Copyright Royalty Board increase our royalty costs; if we are unable to obtain blanket licenses for public performance rights on reasonable terms; if our licenses with collecting societies and our direct licenses with publishers outside of the U.S. do not provide full coverage for all of the musical compositions we make available to our users; for podcasts and other non-music content, if rights holders or content providers do not comply with the terms and conditions of our license agreements as well as the Spotify Terms and Conditions of Use, our business, operating results and financial condition could be materially harmed.

There is also no guarantee that we have all of the licenses we need to stream content, as the process of obtaining such licenses involves many rights holders, some of whom are unknown, and myriad complex legal issues across many jurisdictions, including open questions of law as to when and whether particular licenses are needed. Additionally, rights holders, creators, performers, writers and their agents, or societies, unions, guilds, or legislative or regulatory bodies have created and may

continue to create or attempt to create new rights or regulations that could require us to enter into license agreements with, and pay royalties to, newly defined groups of rights holders, some of which may be difficult or impossible to identify. See also "—Difficulties in obtaining accurate and comprehensive information necessary to identify the compositions embodied in sound recordings on our Service and the ownership thereof may impact our ability to perform our obligations under our licenses, affect the size of our catalog, impact our ability to control content acquisition costs, and lead to potential copyright infringement claims."

Even when we are able to enter into license agreements with rights holders, we cannot guarantee that such agreements will continue to be renewed indefinitely. To the extent we make content available based on brief extensions of license agreements or provisional licenses and/or continuing to operate on an at will basis, we may not have assurance of long-term access to such rights holders' content, which could have a material adverse effect on our business and could lead to potential copyright infringement claims.

It is also possible that such agreements will never be renewed at all. The lack of renewal, or termination, of one or more of our license agreements, or the renewal of a license agreement on less favorable terms, could have a material adverse effect on our business, operating results, and financial condition. See "Item 4.B. Business Overview—Licensing Agreements."

We have no control over third-party providers of the content we stream. The concentration of control of content by our major providers means that even one entity, or a small number of entities working together, may unilaterally affect our access to music and other content.

We rely on various rights holders, over whom we have no control, for the content we make available on our Service. We cannot guarantee that these parties will always choose to license to us or license to us on terms that are acceptable to us.

The music industry has a high level of concentration, which means that one or a small number of entities may, on their own, take actions that adversely affect our business. For example, with respect to sound recordings, the music licensed to us under our agreements with Universal Music Group, Sony Music Entertainment, Warner Music Group, and Music and Entertainment Rights Licensing Independent Network ("Merlin"), makes up the majority of music consumed on our Service. For the year ended December 31, 2020, this content accounted for approximately 78% of music streams. Our business may be adversely affected if our access to music is limited or delayed because of deterioration in our relationships with one or more of these rights holders or if they choose not to license to us for any other reason. Rights holders also may attempt to take advantage of their market power (including by leveraging their publishing affiliate) to seek onerous financial or other terms from us or otherwise impose restrictions that hinder our ability to further innovate our service offerings. We have particular issues in markets where local content is important and such local content is held by local major labels or even individual artists, making it difficult to obtain such local content at all or on economically favorable terms. In addition, publishers' fractional ownership of shares of musical works enhances their market power. As a result, the loss of rights to a major publisher catalogue would force us to take down a significant portion of popular repertoire in the applicable territory or territories, which would significantly disadvantage us in such territory or territories. The lack of complete metadata with respect to publisher ownership may also present challenges in taking down all the tracks of a given publisher. Even if we are able to secure rights to sound recordings from record labels and other copyright owners, artists and/or artist groups may object and may exert public or private pressure on those record labels or copyright owners or other third parties to discontinue licensing rights to us, hold back content from us, or increase royalty rates. As a result, our ability to continue to license rights to sound recordings is subject to convincing a broad range of stakeholders of the value and quality of our Service. To the extent that we are unable to license a large amount of content or the content of certain popular artists, our business, operating results, and financial condition could be materially harmed.

We are a party to many license agreements that are complex and impose numerous obligations upon us that may make it difficult to operate our business, and a breach of such agreements could adversely affect our business, operating results, and financial condition.

Many of our license agreements are complex and impose numerous obligations on us, including obligations to, among other things:

- meet certain user and other targets in order to secure certain licenses and royalty rates;
- calculate and make payments based on complex royalty structures, which requires tracking usage of content on our Service that may have inaccurate or incomplete metadata necessary for such calculation;
- provide periodic reports on the exploitation of the content;
- represent that we will obtain all necessary publishing licenses and consents and pay all associated fees, royalties, and other amounts due for the licensing of musical compositions;
- provide advertising inventory at discounted rates or on other favorable terms;
- comply with certain service offering restrictions;

- comply with certain marketing and advertising restrictions; and comply with certain security and technical specifications.

Many of our license agreements grant the licensor the right to audit our compliance with the terms and conditions of such agreements. Some of our license agreements also include anti-steering, non-discrimination, and so-called "most favored nations" provisions, which require that certain material terms of such agreements are no less favorable than those provided in our agreements with any other similarly situated licensor. If triggered, these provisions could cause our payments or other obligations under those agreements to escalate. Additionally, some of our license agreements require consent to undertake certain business initiatives and, without such consent, our ability to undertake or continue operating new business initiatives may be limited. This could hurt our competitive position.

If we materially breach any of these obligations or any other obligations set forth in any of our license agreements, or if we use content in ways that are found to exceed the scope of such agreements, we could be subject to legal or injunctive remedies (including monetary liability), and/or rights holders could impede our business by withholding content, discounts and bundle approvals and the rights to launch new service offerings, and could ultimately terminate our rights under such license agreements, any of which could have a material adverse effect on our business, operating results, and financial condition. We have entered into settlement agreements requiring us to make substantial payments in the past, and may do so in the future, as a result of claims that we are in breach of certain provisions in, or have exceeded the scope of, our license agreements.

Our royalty payment scheme is complex, and it is difficult to estimate the amount payable under our license agreements.

Under our license agreements and relevant statutes, we must pay all required royalties to record labels, music publishers, and other copyright owners in order to stream content. The determination of the amount and timing of such payments is complex and subject to a number of variables, including the type of content streamed, the country in which it is streamed, the service tier such content is streamed on, the amount of revenue generated by the streaming of the content, the identity of the license holder to whom royalties are owed, the current size of our user base, our current ratio of Ad-Supported Users to Premium Subscribers, the applicability of any most favored nations provisions, and any applicable advertising fees and discounts, among other variables. Additionally, we have certain arrangements whereby royalty costs are paid in advance or are subject to minimum guaranteed amounts. An accrual is estimated when actual royalty costs to be incurred during a contractual period are expected to fall short of the minimum guaranteed amount. Moreover, for minimum guarantee arrangements for which we cannot reliably predict the underlying expense, we will expense the minimum guarantee on a straight-line basis over the term of the arrangement. We also have license agreements that include so-called "most favored nations" provisions, which, if triggered, could cause our royalty payments under those agreements to escalate. An accrual and expense is recognized when it is probable that we will make additional royalty payments under these terms.

We cannot assure you that the internal controls and systems we use to determine royalties payable will always be effective. We have in the past identified a material weakness in our internal controls relating to rights holder liabilities and may identify additional material weaknesses in the future. See "—If we fail to implement and maintain effective internal control over financial reporting, our ability to accurately and timely report our financial results could be adversely affected." If we fail to implement and maintain effective controls relating to rights holder liabilities, we may underpay/under-accrue or overpay/over-accrue the royalty amounts payable to record labels, music publishers, and other copyright owners. Underpayment could result in (i) litigation or other disputes with record labels, music publishers, and other copyright owners, (ii) the unexpected payment of additional royalties in material amounts, and (iii) damage to our business relationships with record labels, music publishers, other copyright owners, and artists and/or artist groups. If we overpay royalties, we may be unable to reclaim such overpayments, and our profits will suffer. Failure to accurately pay our royalties may adversely affect our business, operating results, and financial condition.

From time to time, we pay royalties based on management estimates of the rates that will apply while we negotiate license agreement renewals. Furthermore, on August 11, 2020, the United States Court of Appeals for the D.C. Circuit issued an opinion which, as of the issuance of the formal "mandate" on October 26, 2020, vacated the Copyright Royalty Board's determination of the royalty rates for applicable mechanical rights in the United States for calendar years 2018 to 2022. These rates apply both to compositions that we license under compulsory license pursuant to Section 115 of the Copyright Act of 1976 and to a number of direct licenses that we have with music publishers. Until the rates are determined, our recorded royalty costs, both retrospectively and prospectively, will be based on management estimates of the rates that will apply. When the rates are determined anew, these could either benefit or adversely affect our results of operations and financial condition.

Minimum guarantees required under certain of our license agreements may limit our operating flexibility and may adversely affect our business, operating results, and financial condition.

Certain of our license agreements contain minimum guarantees and/or require that we make minimum guarantee payments. As of December 31, 2020, we have estimated future minimum guarantee commitments of €3.6 billion under license agreements for sound recordings and musical compositions (both for mechanical rights and public performance rights) as well as license agreements for podcasts. Such minimum guarantees related to our content acquisition costs are not always tied to our revenue and/or user growth forecasts (e.g., number of users, active users, Premium Subscribers), or the number of sound recordings and musical compositions or podcasts used on our Service. We may also be subject to minimum guarantees to rights holders with respect to certain strategic partnerships we enter into that on occasion do not produce all of the expected benefits. Accordingly, our ability to achieve and sustain profitability and operating leverage on our Service in part depends on our ability to increase our revenue through increased sales of Premium Service and advertising sales on terms that maintain an adequate gross margin. The duration of our license agreements for sound recordings and musical compositions that contain minimum guarantees is frequently between one and four years, but our Premium Subscribers may cancel their subscriptions at any time. If our forecasts of Premium Subscriber acquisition or retention do not meet our expectations or the number of our Premium Subscribers or advertising sales decline significantly during the term of our license agreements, our margins may be materially and adversely affected. To the extent our Premium Service revenue growth or advertising sales do not meet our expectations, our business, operating results, and financial condition could also be adversely affected as a result of such minimum guarantees. In addition, the fixed cost nature of these minimum guarantees may limit our flexibility in planning for, or reacting to, changes in our business and the market segments in which we operate.

We rely on estimates of the market share of streaming content owned by each content provider, as well as our own user growth and forecasted advertising revenue, to forecast whether such minimum guarantees could be recouped against our actual content acquisition costs incurred over the duration of the license agreement. To the extent that these revenue and/or market share estimates underperform relative to our expectations, leading to content acquisition costs that do not exceed such minimum guarantees, our margins may be materially and adversely affected.

Difficulties in obtaining accurate and comprehensive information necessary to identify the compositions embodied in sound recordings on our Service and the ownership thereof may impact our ability to perform our obligations under our licenses, affect the size of our catalog, impact our ability to control content acquisition costs, and lead to potential copyright infringement claims.

Comprehensive and accurate ownership information for the musical compositions embodied in sound recordings is often unavailable to us or difficult or, in some cases, impossible for us to obtain, sometimes because it is withheld by the owners or administrators of such rights. We currently rely on the assistance of third parties to determine this information. If the information provided to us or obtained by such third parties does not comprehensively or accurately identify the ownership of musical compositions, or if we are unable to determine which musical compositions correspond to specific sound recordings, it may be difficult or impossible to identify the appropriate rights holders from whom to obtain licenses or to whom to pay royalties. This may make it difficult to comply with the obligations of any agreements with those rights holders. This may also make it difficult to identify content for removal from the Service if we lose the rights to such musical compositions.

In the United States, we also relied on the assistance of third parties to issue notices of intent to obtain a compulsory license under Section 115 of the Copyright Act to those copyright owners with whom we did not have a direct license agreement. The enactment of the Music Modernization Act ("MMA") in October 2018 amended the process to obtain a compulsory license under Section 115 of the Copyright Act. In particular, from October 2018 through December 31, 2020, to the extent we did not have a direct license and could not locate the owner of a composition, the law no longer provided a mechanism for us to obtain a compulsory license, but instead provides a limitation of liability under which our only liability for the reproduction and/or distribution of such compositions is the royalty rate set by the U.S. Copyright Royalty Board. That limitation of liability is contingent upon following various procedural steps outlined in the MMA and there is a risk that we can be found to not have properly followed those steps (which could expose us to the risk of increased financial liability in litigations). Beginning on January 1, 2021, the MMA provides a blanket license to reproduce and/or distribute musical compositions on our service. See "—We depend upon third-party licenses for most of the content we stream and an adverse change to, loss of, or claim that we do not hold any necessary licenses may materially adversely affect our business, operating results, and financial condition."

These challenges, and others concerning the licensing of musical compositions embodied in sound recordings on our Service, may subject us to significant liability for copyright infringement, breach of contract, or other claims. See "Item 8.A. Consolidated Statements and Other Financial Information—Legal or Arbitration Proceedings."

New copyright legislation enacted in the United States, and related regulations, may increase the costs and/or difficulty of music licensing.

The Music Modernization Act, enacted in October 2018, makes a number of significant changes to the legal regime governing music licensing in the United States. This legislation could, when fully implemented, result in new operational

requirements and difficulties in obtaining necessary music licenses. The legislation must initially be implemented by the responsible government agencies: the United States Copyright Office and the Copyright Royalty Board. If there is a delay in the adoption of new regulations, or if the rules adopted are burdensome, it may make it more challenging for us to obtain the necessary licenses and/or increase our costs. In July 2019, the Copyright Office selected an entity to serve as the "mechanical licensing collective" ("MLC") to collect mechanical licensing payments from digital music services and distribute them to the correct copyright owners. If the MLC cannot carry out its duties, we may be unable to obtain the necessary licenses.

Additionally, the legislation makes various changes in the rules and procedures of the "rate courts" that set royalty rates paid to the American Society of Composers, Authors and Publishers ("ASCAP") and Broadcast Music, Inc. ("BMI") for performance licenses covering musical compositions. It changes the mechanism by which judges are assigned to hear rate-setting disputes. For some proceedings, it also eliminates a provision barring the introduction of sound recording royalty rates in rate court proceedings. The legislation also makes changes to how royalty rates are set by the Copyright Royalty Board for statutory mechanical licenses. The precise effect of these changes is uncertain, but it could lead the rate courts or the Copyright Royalty Board to adopt less favorable terms for performance licenses or statutory mechanical licenses in the future, which could negatively harm our business, operating results, and financial condition.

The legislation also gives copyright owners a new federal digital performance right for sound recordings made prior to February 15, 1972, which were previously governed exclusively by state laws. We must ensure that our license agreements for the right to stream sound recordings encompass this new federal right. If we fail to do so, the size and quality of our catalog may be materially impacted and our business, operating results, and financial condition could be materially harmed.

Risks Related to Intellectual Property

Assertions by third parties of infringement or other violation by us of their intellectual property rights could harm our business, operating results, and financial condition.

Third parties have asserted, and may in the future assert, that we have infringed, misappropriated, or otherwise violated their copyrights, patents, and other intellectual property rights, and as we face increasing competition, the possibility of intellectual property rights claims against us grows. See "Item 8.A. Consolidated Statements and Other Financial Information—Legal or Arbitration Proceedings."

Our ability to provide our Service is dependent upon our ability to license intellectual property rights to audio content, including sound recordings, any musical compositions embodied therein, and podcasts, as well as visual and related content, such as music videos, clips, album cover art, artist images, and any other media assets that artists and/or labels can add or provide with their tracks. Various laws and regulations govern the copyright and other intellectual property rights associated with audio and visual content, including sound recordings and musical compositions. Existing laws and regulations are evolving and subject to different interpretations, and various legislative or regulatory bodies may expand current or enact new laws or regulations. Although we expend significant resources to seek to comply with the statutory, regulatory, and judicial frameworks by, for example, entering into license agreements, we cannot assure you that we are not infringing or violating any third-party intellectual property rights, or that we will not do so in the future. See "—Difficulties in obtaining accurate and comprehensive information necessary to identify the compositions embodied in sound recordings on our Service and the ownership thereof may impact our ability to perform our obligations under our licenses, affect the size of our catalog, impact our ability to control content acquisition costs, and lead to potential copyright infringement claims." Moreover, while we may often be able to seek indemnities from our licensors with respect to infringement claims that may relate to the content they provide to us, such indemnities may not be sufficient to cover the associated liability if the licensor at issue does not have adequate financial resources.

In addition, music, internet, technology, and media companies are frequently subject to litigation based on allegations of infringement, misappropriation, or other violations of intellectual property rights. Many companies in these industries, including many of our competitors, have substantially larger patent and intellectual property portfolios than we do, which could make us a target for litigation. We may not be able to assert counterclaims against parties that sue us for patent, or other intellectual property infringement. In addition, various "non-practicing entities" that own patents and other intellectual property rights often attempt to aggressively assert claims in order to extract value from technology companies. Further, from time to time we may introduce new products and services, including in territories where we currently do not have an offering, which could increase our exposure to patent and other intellectual property claims from competitors and non-practicing entities. It is difficult to predict whether assertions of third-party intellectual property rights or any infringement or misappropriation claims arising from such assertions will substantially harm our business, operating results, and financial condition. If we are forced to defend against any infringement or misappropriation claims, whether they are with or without merit, are settled out of court, or are determined in our favor, we may be required to expend significant time and financial resources on the defense of such claims. Furthermore, an adverse outcome of a dispute may require us to pay significant damages, which may be even greater if we are found to have willfully infringed upon a party's intellectual property; cease exploiting copyrighted content that we have

previously had the ability to exploit; cease using solutions that are alleged to infringe or misappropriate the intellectual property of others; expend additional development resources to redesign our solutions; enter into potentially unfavorable royalty or license agreements in order to obtain the right to use necessary technologies, content, or materials; indemnify our partners and other third parties; and/or take other actions that may have material effects on our business, operating results, and financial condition.

Moreover, we rely on multiple software programmers to design our proprietary technologies, and we regularly contribute software source code under "open source" licenses and have made technology we developed available under open source licenses. We cannot assure you that our efforts to prevent the incorporation of licenses that would require us to disclose code and/or innovations in our products will always be successful, as we do not exercise complete control over the development efforts of our programmers, and we cannot be certain that our programmers have not used software that is subject to such licenses or that they will not do so in the future. In the event that portions of our proprietary technology are determined to be subject to licenses that require us to publicly release the affected portions of our source code, re-engineer a portion of our technologies, or otherwise be limited in the licensing of our technologies, we may be forced to do so, each of which could materially harm our business, operating results, and financial condition.

Failure to protect our intellectual property could substantially harm our business, operating results, and financial condition.

The success of our business depends on our ability to protect and enforce our patents, trade secrets, trademarks, copyrights, and all of our other intellectual property rights, including the intellectual property rights underlying our Service. We attempt to protect our intellectual property under patent, trade secret, trademark, and copyright law through a combination of intellectual property registration, employee, third-party assignment and nondisclosure agreements, other contractual restrictions, technological measures, and other methods. These afford only limited protection and we are still continuing to develop our processes for securing our intellectual property rights. Despite our efforts to protect our intellectual property rights, unauthorized parties may attempt to copy aspects of our product and brand features, or obtain and use our trade secrets and other confidential information. Moreover, policing our intellectual property rights is difficult and time-consuming. We cannot assure you that we would have adequate resources to protect and police our intellectual property rights, and we cannot assure you that the steps we take to do so will always be effective.

We have filed, and may in the future file, patent applications on certain of our innovations. It is possible, however, that these innovations may not be patentable. In addition, given the cost, effort, risks, and downside of obtaining patent protection, including the requirement to ultimately disclose the invention to the public, we may choose not to seek patent protection for some innovations. Furthermore, our patent applications may not issue as granted patents, the scope of the protection gained may be insufficient or an issued patent may be deemed invalid or unenforceable. We also cannot guarantee that any of our present or future patents or other intellectual property rights will not lapse or be invalidated, circumvented, challenged, or abandoned.

Neither can we guarantee that our intellectual property rights will provide competitive advantages to us. Our ability to assert our intellectual property rights against potential competitors or to settle current or future disputes could be limited by our relationships with third parties, and any of our pending or future patent applications may not have the scope of coverage originally sought. We cannot guarantee that our intellectual property rights will be enforced in jurisdictions where competition may be intense or where legal protection may be weak. We could lose both the ability to assert our intellectual property rights against, or to license our technology to, others and the ability to collect royalties or other payments. Certain countries' legal systems do not provide the same level of support for the enforcement or protection of intellectual property rights as those of the United States, and as a result, our intellectual property and proprietary rights may be subject to theft without, or with little, legal recourse.

We currently own the www.spotify.com internet domain name and various other related domain names. Internet regulatory bodies generally regulate domain names. If we lose the ability to use a domain name in a particular country, we may be forced either to incur significant additional expenses to market our Service within that country or, in extreme cases, to elect not to offer our Service in that country. Either result could harm our business, operating results, and financial condition. The regulation of domain names in the United States and in foreign countries is subject to change. Regulatory bodies could establish additional top-level domains, appoint additional domain name registrars, or modify the requirements for holding domain names. As a result, we may not be able to acquire or maintain the domain names that utilize our brand names in the United States or other countries in which we may conduct business in the future.

Litigation or proceedings before governmental authorities and administrative bodies may be necessary in the future to enforce our intellectual property rights, to protect our patent rights, trademarks, trade secrets, and domain names and to determine the validity and scope of the proprietary rights of others. Our efforts to enforce or protect our proprietary rights may be ineffective and could result in substantial costs and diversion of resources and management time, each of which could

substantially harm our operating results. Additionally, changes in law may be implemented, or changes in interpretation of such laws may occur, that may affect our ability to protect and enforce our patents and other intellectual property.

Risks Related to Our Operations

Streaming depends on effectively working with operating systems, online platforms, hardware, networks, regulations, and standards we do not control. Changes in our Service or those operating systems, hardware, networks, regulations, or standards, and our limitations on our ability to access those platforms, operating systems, hardware, or networks may seriously harm our business.

We rely on a variety of operating systems, online platforms, hardware, and networks to reach our users. These platforms range from desktop and mobile operating systems and application stores to wearables and intelligent voice assistants. The owners or operators of these platforms may not share our interests and may restrict our access to them or place conditions on access that would materially affect our ability to access those platforms. In particular, where the owner of a platform is also our direct competitor, the platform may attempt to use this position to affect our access to users and ability to compete. For example, an online platform might arbitrarily remove our Service from its platform, deprive us of access to business critical data, or engage in other harmful practices. Online platforms also may unilaterally impose certain requirements that negatively affect our ability to convert users to the Premium Service, such as conditions that limit our freedom to communicate promotions and offers to our users. Similarly, online platforms may force us to use the platform's payment processing systems that may be inferior to, and more costly than, other payment processing services available in the market. Online platforms frequently change the rules and requirements for services like ours to access the platform, and such changes may adversely affect the success or desirability of our Service. To maintain certain elements of the Service on a platform, we may need to make additional concessions to the platform operator that may adversely affect other aspects of the business or require us to invest significant expenses. Online platforms may limit our access to information about users, limiting our ability to convert and retain them. Online platforms also may deny access to application programming interfaces or documentation, limiting functionality of our Service on the platform. In addition, if online platforms discontinue any log-in authentication services that our users use to access our Service, we may lose and be unable to recover users previously using this function.

In March 2019, we filed a complaint against Apple with the European Commission for engaging in certain behaviors that we believe are unlawful and anti-competitive. In June 2020, the European Commission opened a formal investigation into Apple's conduct. We cannot assure you that the outcome of the process with the European Commission will be successfully resolved in our favor. In September 2020, we joined other app developer companies and organizations to form the Coalition for App Fairness with the goal of promoting app store principles that, among other things, address anti-competitive practices by platforms. We cannot assure you that those efforts will result in favorable outcomes.

Furthermore, because devices providing access to our Service are not manufactured and sold by us, we cannot guarantee that these devices perform reliably, and any faulty connection between these devices and our Service may result in consumer dissatisfaction toward us, which could damage our brand. In addition, we have no control over the hardware or software of these devices and any changes to them may negatively impact our business. For example, as part of an update to its iOS operating system, Apple has announced new requirements for app developers on a mobile device to track users or receive Apple's IDFA, which may create difficulties in monetizing our users or measuring the effectiveness of our user acquisition campaigns and challenge our ability to promote our products and services to iOS users.

Moreover, our Service requires high-bandwidth data capabilities. If the costs of data usage increase or access to data networks is limited, our business may be seriously harmed. Additionally, to deliver high-quality audio, video, and other content over networks, our Service must work well with a range of technologies, systems, networks, regulations, and standards that we do not control. In addition, the adoption of any laws or regulations that adversely affect the growth, popularity, or use of the internet, including laws governing internet neutrality, could decrease the demand for our Service and increase our cost of doing business. For example, in December 2017, the Federal Communications Commission (the "FCC") voted to repeal prior "open internet rules," which included bright-line provisions prohibiting internet service providers from blocking lawful internet content, throttling such content, or engaging in paid prioritization, as well as a general conduct standard barring such providers from unreasonably interfering with or disadvantaging online content providers' access to end users and end users' access to online content, and to rely instead on disclosure obligations backed by Federal Trade Commission enforcement. Several states have imposed their own open internet protections modeled on the repealed bright-line provisions, although internet service providers have filed lawsuits challenging such measures, and additional challenges are likely. Similarly, the European Union (the "EU") currently requires equal access to internet content, but as part of the EU's Digital Single Market initiative and the implementation of the European Electronic Communications Code at the national level, EU Member States may impose network security and disability access obligations on "over-the-top" services such as those provided by us. If the FCC's repeal of the open internet rules is maintained, state initiatives regulating providers are modified, overturned, or vacated, or the EU modifies these open internet rules, broadband service providers may be able to limit our users' ability to access Spotify or

make Spotify a less attractive alternative to our competitors' applications, and our business, operating results, and financial condition would be seriously harmed.

We may not successfully cultivate relationships with key industry participants or comply with the requirements of various operating systems, online platforms, hardware, networks, regulations, and standards on which our Service depends, and failure to do so could result in serious harm to our business and user retention, growth, and engagement.

Failure to maintain the security of data relating to our users could result in civil liability, statutory fines, regulatory enforcement, and the loss of confidence in us by our users, advertisers, content providers, and other business partners, all of which could harm our business.

Techniques used to gain unauthorized access to data and software are constantly evolving, and we may be unable to anticipate or prevent unauthorized access to data pertaining to our users, including credit card and debit card information and other personal data about our users, business partners, and employees. Our Service, which is supported by our own systems and those of third parties that we work with, is vulnerable to software bugs, computer viruses, internet worms, break-ins, phishing attacks, attempts to overload servers with denial-of-service, or other attacks and similar disruptions from unauthorized use of our and third-party computer systems, any of which could cause loss of critical data or unauthorized access to personal data. Computer malware, viruses, and computer hacking and phishing attacks have occurred on our systems in the past and may occur on our systems in the future. Because of our prominence, we believe that we are a particularly attractive target for such attacks. We cannot assure you that the systems and processes that we have designed to protect our data and our users' data, to prevent data loss, to disable undesirable accounts and activities on our platform, and to prevent or detect security breaches, will provide absolute security, and we may incur significant costs in protecting against or remediating cyber-attacks.

If an actual or perceived breach of security occurs to our systems or a third party's systems, we may face actions against us by governmental entities, data protection authorities, civil litigants, or others that could result in enforcement, litigation and financial losses, and the public perception of our security measures could be diminished and our reputation harmed, all of which would negatively affect our ability to attract and retain users, which in turn would harm our efforts to attract and retain advertisers, content providers, and other business partners. We would also have to expend significant resources to mitigate the breach and upgrade our security systems, and in most cases notify affected users and relevant data protection and regulatory authorities. A data breach by service providers that are acting as our data processors (i.e., processing personal data on our behalf) would raise similar risks and obligations. Any of these events could have a material adverse effect on our business, operating results, and financial condition and could cause our stock price to drop significantly.

Our Service and software are highly technical and may contain undetected software bugs or vulnerabilities, which could manifest in ways that could seriously harm our reputation and our business.

Many of the products we offer are highly technical and complex. These products or any other product we may introduce in the future may contain undetected software bugs, hardware errors, and other vulnerabilities. These bugs and errors can manifest in any number of ways in our products, including through diminished performance, security vulnerabilities, malfunctions, or even permanently disabled products. We have a practice of rapidly updating our products, and as a result some errors in our products may be discovered only after a product has been used by users, and may in some cases be detected only under certain circumstances or after extended use. Additionally, many of our products are available on multiple operating systems and/or multiple devices offered by different manufacturers, and changes or updates to such operating systems or devices may cause errors or functionality problems in our products, including rendering our products inoperable by some users. Our products operate in conjunction with, and we are dependent upon, third-party products and services, and any security vulnerability, error, or other bug in one of these third-party products or services could thwart our users' ability to access our products and services and harm our reputation. Additionally, any errors, bugs, or other vulnerabilities discovered in our code or backend after release could damage our reputation, drive away users, allow third parties to manipulate or exploit our software, lower revenue, and expose us to claims for damages, any of which could seriously harm our business. See "Risks Related to Our Metrics—We are at risk of attempts to manipulate or exploit our software for the purpose of gaining or providing unauthorized access to certain features of our Service, and failure to effectively prevent and remediate such attempts could have an adverse impact on our business, operating results, and financial condition." Additionally, errors, bugs, or other vulnerabilities may—either directly or if exploited by third parties—affect our ability to make accurate royalty payments. See "Risks Related to Securing the Rights to the Content We Stream—Our royalty payment scheme is complex, and it is difficult to estimate the amount payable under our license agreements."

We could also face claims for product liability, tort, or breach of warranty. Defending a lawsuit, regardless of its merit, is costly and may divert management's attention and seriously harm our reputation and our business. In addition, if our liability insurance coverage proves inadequate or future coverage is unavailable on acceptable terms or at all, our business could be seriously harmed.

Interruptions, delays, or discontinuations in service arising from our own systems or from third parties could impair the delivery of our Service and harm our business.

We have experienced, and may in the future experience, periodic service interruptions and delays involving our own systems and those of third parties that we work with. Both our own systems and those of third parties are vulnerable to damage or interruption from earthquakes, floods, fires, power loss, telecommunications failures, and similar events. They are also subject to break-ins, sabotage, intentional acts of vandalism, the failure of physical, administrative, technical, and cyber security measures, terrorist acts, natural disasters, human error, the financial insolvency of third parties that we work with, global pandemics and other public health crises, such as the COVID-19 pandemic, and other unanticipated problems or events. The occurrence of any of these events could result in interruptions in our Service and unauthorized access to, or alteration of, the content and data contained on our systems that these third parties store and deliver on our behalf.

Any disruption in the services provided by these third parties could materially adversely impact our business reputation, customer relations, and operating results. Upon expiration or termination of any of our agreements with third parties, we may not be able to replace the services provided to us in a timely manner or on terms and conditions, including service levels and cost, that are favorable to us, and a transition from one third party to another could subject us to operational delays and inefficiencies until the transition is complete.

We rely upon the Google Cloud Platform to operate certain aspects of our business and to store almost all of our data, and any disruption of or interference with our use of the Google Cloud Platform could have a material adverse effect on our business, operating results, and financial condition.

Google Cloud Platform ("GCP") provides a distributed computing infrastructure platform for business operations, or what is commonly referred to as a cloud computing service. We have designed our software and computer systems to utilize data processing, storage capabilities, and other services provided by GCP, and currently rely on GCP for the vast majority of our primary data storage (including personal data of users and audio data licensed from rights holders) and computing. We cannot easily switch our GCP operations to another cloud provider, and any disruption of, or interference with, our use of GCP could have a material adverse effect on our business, operating results, and financial condition. While the consumer side of Google competes with us, we do not believe that Google will use the GCP operation in such a manner as to gain competitive advantage against our Service.

Our business is subject to complex and evolving laws and regulations around the world. Many of these laws and regulations are subject to change and uncertain interpretation, and could result in claims, changes to our business practices, monetary penalties, increased cost of operations, or otherwise harm our business.

We are an international company that is registered under the laws of Luxembourg, with offices and/or operations in 93 countries and territories around the world. As a result of this organizational structure and the scope of our operations, we are subject to a variety of laws and regulations in different countries that involve matters central to our business, including privacy, data protection, content, intellectual property, advertising and marketing, competition, protection of minors, consumer protection, automatic subscription renewals, credit card processing, foreign exchange controls, and taxation. These laws and regulations may be interpreted and applied in a manner that is inconsistent from country to country and inconsistent with our current policies and practices and in ways that could harm our business, particularly in the new and rapidly evolving industry in which we operate. Additionally, the introduction of new products or services, expansion of our activities in certain jurisdictions, entry into new jurisdictions, or other actions that we may take may subject us to additional laws and regulations. These laws and regulations, as well as any associated claims, inquiries, or other government actions, may subject us to increased operating costs, delays or impediments in our business activities, diversion of management time and attention, and remedies that harm our business, including fines or demands or orders that we modify or cease existing business practices.

The adoption or modification of laws or regulations relating to the internet or other areas of our business could limit or otherwise adversely affect the manner in which we currently conduct our business. For example, based on the Directive on Copyright in the Digital Single Market, EU Member States are required to implement new rules on copyright protection by June 2021, including rules on remuneration for use of copyrighted content and obligations on online content-sharing service providers, which could also impact our costs or the conditions for users to access licensed content. In the United States, the protections from legal liability for content moderation decisions and third-party content posted on online platforms that are currently available to online platforms under Section 230 of the Communications Decency Act could change or decrease over the next few years. This could result in increased liability for content moderation decisions and third-party content posted on our Service and higher litigation costs. Certain jurisdictions have implemented or are contemplating implementing laws that may negatively impact our automatic renewal structure or our free or discounted trial incentives. Additionally, in Europe, a number of regulatory initiatives have been proposed to tackle the way platforms and digital services providers operate, including rules on the removal of illegal content and on transparency and reporting. Further, compliance with laws, regulations,

and other requirements imposed upon our business may be onerous and expensive, and they may be inconsistent from jurisdiction to jurisdiction, further increasing the cost of compliance and doing business.

Various existing, new, and changing laws and regulations as well as self-regulation and public concern related to privacy and data security pose the threat of lawsuits, regulatory fines, other liability and reputational harm, require us to expend significant resources, and may harm our business, operating results, and financial condition.

As we collect and utilize personal data about our users as they interact with our Service, we are subject to new and existing laws and regulations that govern our use of user data. We are likely to be required to expend significant capital to ensure ongoing compliance with these laws and regulations. Claims or allegations that we have violated laws and regulations relating to privacy and data security could result in negative publicity and a loss of confidence in us by our users and our partners. We may be required to make significant expenditure to resolve these issues and we could be subject to civil liability and/or fines or other penalties, including by government and data protection authorities.

We are subject to the General Data Protection Regulation ("GDPR"), which came into effect in May 2018 and imposes stringent operational requirements regarding, among others, data use, sharing and processing, data breach notifications, data subject rights, and cross-border data transfers for entities collecting and/or processing personal data of EU residents and significant penalties for non-compliance (up to EUR 20 million or up to 4% of the total worldwide annual turnover of the preceding financial year, whichever is higher). Following the United Kingdom's ("UK") departure from the European Union and the expiry of the transition period, we will be subject to UK data protection law, which imposes obligations and penalties similar to the GDPR. We are also subject to Directive 2002/58 on Privacy and Electronic Communications (the "ePrivacy Directive"), which requires entities to obtain informed and freely given consent for the placement of cookies and similar technologies on a user's device. We are also subject to Lei Geral de Proteção de Dados ("LGPD"), which went into effect in September 2020, and that imposes similar requirements to GDPR on the collection and processing of data of Brazilian residents, as well as penalties for non-compliance (up to 2% of the Brazil-sourced income for the preceding financial year, limited to approximately $11 million per infraction, with the possibility of a daily fine to compel the cessation of violations). We are also subject to the California Consumer Privacy Act ("CCPA"), which came into effect in January 2020 and imposes heightened transparency obligations, adds restrictions on the "sale" of personal information, and creates new data privacy rights for California residents and carries significant enforcement penalties for non-compliance (up to $7,500 per intentional violation and $2,500 per other violation). California consumers also have a private right of action under the CCPA with respect to certain data breaches and can recover civil damages of up to $750 per incident, per consumer or actual damages, whichever is greater.

We rely on data transfer mechanisms permitted under the GDPR, including the Standard Contractual Clauses. Such mechanisms have recently received heightened regulatory and judicial scrutiny, and the European Commission is in the process of substantively updating the Standard Contractual Clauses. Ensuring we can continue to transfer E.U. personal data outside of the European Economic Area in compliance with new regulatory and judicial guidance and legislative developments may require us to expend significant resources.

New laws, amendments to, or reinterpretations of existing laws, rules of self-regulatory bodies, industry standards, and contractual obligations, as well as changes in our users' expectations and demands regarding privacy and data security, may require that we expend considerable resources to meet these requirements and may limit our ability to collect, use, and disclose, and to leverage and derive economic value from user data. Restrictions on our ability to collect, access and harness user data, or to use or disclose user data, may require us to expend significant resources to adapt to these changes, and would in turn limit our ability to stream personalized content to our users and offer advertising and promotional opportunities to users on the Service.

The regulatory framework for privacy issues worldwide is currently in flux and is likely to remain so for the foreseeable future. Our business, including our ability to operate and expand internationally, could be adversely affected if legislation or regulations are adopted, interpreted, or implemented in a manner that is inconsistent with our current business practices and that require changes to these practices, the design of our website, services, features, or our privacy policy.

We have incurred, and will continue to incur, expenses to comply with privacy and security standards and protocols imposed by law, regulation, self-regulatory bodies, industry standards, and contractual obligations. Any failure to comply with privacy laws could result in litigation, regulatory or governmental investigations, enforcement action requiring us to change the way we use personal data, restrictions on how we use personal data, or significant regulatory fines. In addition to statutory enforcement, a data breach could lead to compensation claims by affected individuals (including consumer advocacy groups), negative publicity and a potential loss of business as a result of customers losing trust in us. Such failures could have a material adverse effect on our financial condition and operations.

Our business depends on a strong brand, and any failure to maintain, protect, and enhance our brand could harm our business

We have developed a strong brand that we believe has contributed significantly to the success of our business. Maintaining, protecting, and enhancing the "Spotify" brand is critical to expanding our base of Ad-Supported Users, Premium Subscribers, and advertisers, and will depend largely on our ability to continue to provide useful, reliable, trustworthy, and innovative products and services, which we may not do successfully. We may introduce new products, services, features, content, or terms of service that our users, advertisers, or partners do not like, which may negatively affect our brand. Our brand may be impaired by a number of other factors, including a decline in the quality or quantity of the content available on our Service, product or technical performance failures, or other reputational issues. Our brand may also be negatively affected by the sharing of content on our platform that our users find objectionable, the use of our products or services to create or disseminate content that is deemed to be misleading or intended to manipulate opinions, perceived or actual efforts by governments to censor certain content on our platform, the use of our products for illicit, objectionable, or illegal ends, or our failure to respond appropriately to such uses of our products and services or to otherwise adequately address user concerns. Additionally, the actions of our developers, advertisers, and content partners may affect our brand if users do not have a positive experience using third-party applications or websites integrated with Spotify or that make use of Spotify content or brand features. If we fail to successfully maintain a strong brand, our business could be harmed.

If we are unable to maintain the growth rate in the number of our Ad-Supported Users and Premium Subscribers, we may be required to expend greater resources than we currently spend on advertising, marketing, and other brand-building efforts to preserve and enhance consumer awareness of our brand, which would adversely affect our operating results and may not be effective.

Additionally, we receive a high degree of media coverage around the world. Unfavorable publicity regarding, for example, payments to record labels, publishers, artists, and other copyright owners, content on our Service, our privacy practices, terms of service, service changes, service quality, litigation or regulatory activity, government surveillance, employee matters, the actions of our advertisers or strategic partners, the actions of our developers whose services are integrated with our Service, the actions of our users, or the actions of other companies that provide similar services to us, could materially adversely affect our reputation and brand. Such negative publicity also could have an adverse effect on the size, engagement, and loyalty of our user base and result in decreased revenue, which could materially adversely affect our business, operating results, and financial condition.

We are subject to payments-related risks.

We accept payments using a variety of methods, including credit and debit card transactions. For credit and debit card payments, we pay interchange and other transaction fees, which may increase over time. An increase in those fees would require us to either increase the prices we charge for our Premium Service, which could cause us to lose Premium Subscribers and subscription revenue, or suffer an increase in our costs without a corresponding increase in the price we charge for our Premium Service, either of which could harm our business, operating results, and financial condition. We rely on third-party service providers for payment processing services, including the processing of credit and debit cards. In particular, we rely on one third-party service provider, Adyen, for approximately 74% of our payment processing. Our business could be materially disrupted if these third-party service providers become unwilling or unable to provide these services to us. If we or our service providers for payment processing services have problems with our billing software, or the billing software malfunctions, it could have a material adverse effect on our user satisfaction and could cause one or more of the major credit card companies to disallow our continued use of their payment products. In addition, if our billing software fails to work properly and, as a result, we do not automatically charge our Premium Subscribers' credit cards on a timely basis or at all, our business, operating results, and financial condition could be materially adversely affected.

We are also subject to payment card association operating rules, certification requirements, and rules governing electronic funds transfers, including the Payment Card Industry Data Security Standard v3.2.1, which could change or be reinterpreted to make it more difficult for us to comply. Any failure to comply with these rules or requirements may subject us to higher transaction fees, fines, penalties, damages, and civil liability, and may result in the loss of our ability to accept credit and debit card payments. Further, there is no guarantee that, even if we are in compliance with such rules or requirements, such compliance will prevent illegal or improper use of our payment systems or the theft, loss, or misuse of data pertaining to credit and debit cards, credit and debit card holders, and credit and debit card transactions. Certain payment card associations have proposed additional requirements for trial offers for automatic renewal subscription services, which may hinder our ability to attract or retain Premium Subscribers.

If we fail to adequately control fraudulent credit card transactions, we may face civil liability, diminished public perception of our security measures, and significantly higher credit card-related costs, each of which could adversely affect our business, financial condition, and results of operations. If we are unable to maintain our chargeback rate or refund rates at acceptable levels, credit card and debit card companies may increase our transaction fees or terminate their relationships with

us. The termination of our ability to process payments on any major credit or debit card would significantly impair our ability to operate our business.

We also accept payments through various payment solution providers, such as telco integrated billings and prepaid codes vendors. These payment solution providers provide services to us in exchange for a fee, which may be subject to change. Furthermore, we rely on their accurate and timely reports on sales and redemptions. If such accurate and timely reports are not being provided, it will affect the accuracy of our reports to our licensors, and also affect the accuracy of our financial reporting.

We depend on highly skilled key personnel to operate our business, and if we are unable to attract, retain, and motivate qualified personnel, our ability to develop and successfully grow our business could be harmed.

We believe that our future success is highly dependent on the talents and contributions of our senior management, including Daniel Ek, our Chief Executive Officer, members of our executive team, and other key employees, such as key engineering, finance, research and development, marketing, and sales personnel. Our future success depends on our continuing ability to attract, develop, motivate, and retain highly qualified and skilled employees. All of our employees, including our senior management, are free to terminate their employment relationship with us at any time, and their knowledge of our business and industry may be difficult to replace. Qualified individuals are in high demand, particularly in the digital media industry, and we may incur significant costs to attract them. We use equity awards to attract talented employees. If the value of our ordinary shares declines significantly and remains depressed, that may prevent us from recruiting and retaining qualified employees. If we are unable to attract and retain our senior management and key employees, we may not be able to achieve our strategic objectives, and our business could be harmed. In addition, we believe that our key executives have developed highly successful and effective working relationships. We cannot assure you that we will be able to retain the services of any members of our senior management or other key employees. If one or more of these individuals leave, we may not be able to fully integrate new executives or replicate the current dynamic, and working relationships that have developed among our senior management and other key personnel, and our operations could suffer.

Our operating results may fluctuate, which makes our results difficult to predict.

Our revenue and operating results could vary significantly from quarter to quarter and year to year because of a variety of factors, many of which are outside our control. As a result, comparing our operating results on a period-to-period basis may not be meaningful. Factors that may contribute to the variability of our quarterly and annual results include:

- our ability to retain our current user base, increase our number of Ad-Supported Users and Premium Subscribers, and increase users' time spent streaming content on our Service;
- our ability to more effectively monetize our Service on mobile and other connected devices;
- our ability to effectively manage our growth;
- our ability to attract user and/or customer adoption of and generate significant revenue from new products, services, and initiatives;
- our ability to attract and retain existing advertisers and prove that our advertising products are effective enough to justify a pricing structure that is profitable for us;
- the effects of increased competition in our business;
- seasonal fluctuations in spending by our advertisers and product usage by our users;
- increases in research and development, marketing, sales, and other operating expenses that we may incur to grow and expand our operations and to remain competitive;
- costs related to the acquisition of businesses, talent, technologies or intellectual property;
- lack of accurate and timely reports and invoices from our rights holders and partners;
- interruptions in service, whether or not we are responsible for such interruptions, and any related impact on our reputation;
- our ability to pursue and appropriately time our entry into new geographic or content markets and, if pursued, our management of this expansion;
- costs associated with defending any litigation, including intellectual property infringement litigation;
- fluctuations in currency exchange rates;
- social costs we accrue for share-based compensation;
- timing of restricted stock units ("RSUs") vesting and stock option exercise activity of our employees;
- changes in the market value of our investments (such as our long term investments relating to TME) or the fair value of any outstanding financial instruments (such as our warrants);
- the impact of general economic conditions on our revenue and expenses; and
- changes in regulations affecting our business.

If we fail to implement and maintain effective internal control over financial reporting, our ability to accurately and timely report our financial results could be adversely affected.

We are required to maintain internal control over financial reporting and to report any material weaknesses in those controls. We have in the past identified a material weakness in our internal control over financial reporting that was subsequently remediated. If we identify future material weaknesses in our internal control over financial reporting or fail to meet our obligations as a public company, including the requirements of the Sarbanes-Oxley Act of 2002 (the "Sarbanes-Oxley Act"), we may be unable to accurately report our financial results, or report them within the timeframes required by law or stock exchange regulations, and we could lose investor confidence in the accuracy and completeness of our financial reports, which would cause the price of our ordinary shares to decline. Under Section 404 of the Sarbanes-Oxley Act, we are required to evaluate and determine the effectiveness of our internal control over financial reporting and provide a management report as to internal control over financial reporting. Failure to maintain effective internal control over financial reporting also could potentially subject us to sanctions or investigations by the SEC, the NYSE, or other regulatory authorities, or shareholder lawsuits, which could require additional financial and management resources.

We may require additional capital to support business growth and objectives, and this capital might not be available on acceptable terms, if at all.

We intend to continue to make investments to support our business growth and may require additional funds to respond to business challenges, including the need to develop new features or enhance our existing Service, expand into additional markets around the world, improve our infrastructure, or acquire complementary businesses and technologies. Accordingly, we have in the past engaged, and may in the future engage, in equity and debt financings to secure additional funds. If we raise additional funds through future issuances of equity or convertible debt securities, our existing shareholders could suffer significant dilution, and any new equity securities we issue could have rights, preferences, and privileges superior to those of holders of our ordinary shares. Any debt financing we secure in the future could also contain restrictive covenants relating to our capital-raising activities and other financial and operational matters, which may make it more difficult for us to obtain additional capital and pursue business opportunities, including potential acquisitions. We may not be able to obtain additional financing on terms favorable to us, if at all. If we are unable to obtain adequate financing or financing on terms satisfactory to us when we require it, our ability to continue to support our business growth, acquire or retain users, and to respond to business challenges could be significantly impaired, and our business may be harmed.

If currency exchange rates fluctuate substantially in the future, the results of our operations, which are reported in Euros, could be adversely affected.

As we continue to expand our international operations, we become increasingly exposed to the effects of fluctuations in currency exchange rates. We incur expenses for employee compensation, property leases, and other operating expenses in the local currency, and an increasing percentage of our international revenue is from users who pay us in currencies other than U.S. dollars and Euros, including the Swedish Krona, the Australian dollar, and the British Pound Sterling. In addition, while we incur royalty expenses primarily in U.S. dollars and Euros, the corresponding revenues are being generated in local currencies and, as such, the multiple currency conversions will be affected by currency fluctuations, which may result in losses to us. Fluctuations in the exchange rates between the Euro and other currencies may impact expenses as well as revenue, and consequently have an impact on margin and the reported operating results. This could have a negative impact on our reported operating results. To date, we have engaged in limited hedging strategies related to foreign exchange risk stemming from our operations. These strategies may include instruments such as foreign exchange forward contracts and options. However, these strategies should not be expected to fully eliminate the foreign exchange rate risk that we are exposed to.

The impact of worldwide economic conditions may adversely affect our business, operating results, and financial condition.

Our financial performance is subject to worldwide economic conditions and their impact on levels of advertising spending. Expenditures by advertisers generally tend to reflect overall economic conditions, and to the extent that the economy continues to stagnate, reductions in spending by advertisers could have a material adverse impact on our business. Historically, economic downturns have resulted in overall reductions in advertising spending.

Economic conditions may adversely impact levels of consumer spending, which could adversely impact the number of users who purchase our Premium Service on our website and mobile application. Consumer purchases of discretionary items generally decline during recessionary periods and other periods in which disposable income is adversely affected. To the extent that overall economic conditions reduce spending on discretionary activities, our ability to retain current and obtain new Premium Subscribers could be hindered, which could reduce our subscription revenue and negatively impact our business. For example, the economic disruption caused by the COVID-19 pandemic has adversely affected, and could continue to adversely affect, the levels of advertising spending and consumer spending on discretionary items, which in turn adversely affect our ad sales and Subscriber revenue. See "Risks Related to Our Business Model, Strategy, and Performance—The COVID-19 pandemic has had, and could continue to have, an adverse impact on our business, operating results, and financial condition." Additionally, under the terms of a withdrawal agreement between the United Kingdom and the EU, the United Kingdom

formally left the EU on January 31, 2020, and on January 1, 2021, the United Kingdom left the EU Single Market and Customs Union, as well as all EU policies and international agreements. On December 24, 2020, the European Commission reached a trade agreement with the United Kingdom on the terms of its future cooperation with the EU (the "Trade Agreement"). Although we cannot predict the impact that the Trade Agreement and any future agreements on services will have on our business, it is possible that new terms, as well as the continued uncertainty related to Brexit, may adversely affect consumer confidence and the level of consumer purchases of discretionary items, including our Service. Any such effect could adversely affect our business, operating results, and financial condition.

Risks Related to Our Metrics

Our user metrics and other estimates are subject to inherent challenges in measurement, and real or perceived inaccuracies in those metrics may seriously harm and negatively affect our reputation and our business.

We regularly review key metrics related to the operation of our business, including, but not limited to, our monthly active users ("MAUs"), Ad-Supported MAUs, Premium average revenue per user ("ARPU"), and Premium Subscribers, to evaluate growth trends, measure our performance, and make strategic decisions. These metrics are calculated using internal company data and have not been validated by an independent third party. While these numbers are based on what we believe to be reasonable estimates of our user base for the applicable period of measurement, there are inherent challenges in measuring how our Service is used across large populations globally. For example, we believe that while there are individuals who have multiple Spotify accounts, which we treat as multiple users for purposes of calculating our active users, there are also Spotify accounts that are used by more than one person. Accordingly, the calculations of our active users may not reflect the actual number of people using our Service. In addition, we are continually seeking to improve our estimates of our user base, and such estimates may change due to improvements or changes in our methodology, including improvements in our ability to identify and/or address previously undetected undesirable user behaviors. We cannot assure you that our efforts to improve our estimates of user base and to identify and/or address undesirable user behaviors will be successful, and these efforts could result in the removal of certain user accounts and/or a reduction in MAUs or other metrics.

Errors or inaccuracies in our metrics or data could result in incorrect business decisions and inefficiencies, including expending resources to implement unnecessary business measures or failing to take required actions to attract a sufficient number of users to satisfy our growth strategies.

In addition, advertisers generally rely on third-party measurement services to calculate metrics related to our advertising business, and these third-party measurement services may not reflect our true audience. Some of our demographic data also may be incomplete or inaccurate because users self-report their names and dates of birth or because we receive them from other third parties. Consequently, the personal data we have may differ from our users' actual names and ages. If advertisers, partners, or investors do not perceive our user, geographic, or other demographic metrics to be accurate representations of our user base, or if we discover material inaccuracies in our user, geographic, or other demographic metrics, our reputation may be seriously harmed.

We are at risk of artificial manipulation of stream counts and failure to effectively manage and remediate such fraudulent streams could have an adverse impact on our business, operating results, and financial condition. Fraudulent streams and potentially associated fraudulent user accounts or artists may cause us to overstate key performance indicators, which once discovered, corrected, and disclosed, could undermine investor confidence in the integrity of our key performance indicators and could cause our stock price to drop significantly.

We have in the past been, and continue to be, impacted by attempts by third parties to artificially manipulate stream counts. Such attempts may, for example, be designed to generate revenue for rights holders or to influence placement of content on Spotify-created playlists or industry music charts. These potentially fraudulent streams may involve creating non-bona fide user accounts or artists or using compromised passwords to access legitimate user accounts. For example, we have detected instances of botnet operators creating fake user accounts or hackers using passwords compromised as a result of a breach on a non-Spotify service to access legitimate user accounts and streaming specific content repeatedly, thereby generating royalties each time the content is streamed or increasing its visibility on our or third-party charts. We use a combination of algorithms and manual review by employees to detect fraudulent streams and aim to remove fake user accounts created for the above purposes and filter them out from our metrics on an ongoing basis, as well as to require users to reset passwords that we suspect have been compromised. However, we may not be successful in detecting, removing, and addressing all fraudulent streams and any related user accounts. If we fail to successfully detect, remove, and address fraudulent streams and associated user accounts, it may result in the manipulation of our data, including the key performance indicators, which underlie, among other things, our contractual obligations with rights holders and advertisers (which could expose us to the risk of litigation), as well as harm our relationships with rights holders and advertisers. In addition, once we detect, correct, and disclose fraudulent streams and associated user accounts, this may result in the removal of certain user accounts and/or a reduction in account activity,

which may affect key performance indicators and undermine investor confidence in the integrity of our key performance indicators. These could have a material adverse impact on our business, operating results, and financial condition.

We are at risk of attempts to manipulate or exploit our software for the purpose of gaining or providing unauthorized access to certain features of our Service, and failure to effectively prevent and remediate such attempts could have an adverse impact on our business, operating results, and financial condition.

We have in the past been, and continue to be, impacted by attempts by third parties to manipulate or exploit our software for the purpose of gaining or providing unauthorized access to certain features of our Service. For example, we have detected instances of third parties seeking to provide mobile device users a means to suppress advertisements without payment and gain access to features only available to the Ad-Supported Service on tablets and desktop computers. If we fail to successfully detect and address such issues, it may have artificial effects on our key performance indicators, such as MAUs, which underlie, among other things, our contractual obligations with rights holders and advertisers (which could expose us to the risk of litigation), as well as harm our relationship with rights holders and advertisers. The discovery or development of any new method to gain unauthorized access to certain features of our Service, such as through the exploitation of software vulnerabilities, and the sharing of any such method among third parties, may increase the level of unauthorized access (and the attendant negative financial impact described above). We cannot assure you we will be successful in finding ways to effectively address unauthorized access achieved through any such method. Additionally, compared to our Ad-Supported Users, individuals using unauthorized versions of our application may be less likely to convert to Premium Subscribers. Moreover, once we detect and disable such unauthorized access, this may result in the removal of certain user accounts and/or a reduction in account activity, which may affect our key performance indicators and could undermine investor confidence in the integrity of our key performance indicators. These could have a material adverse impact on our business, operating results, and financial condition.

Risks Related to Tax

We are a multinational company that faces complex taxation regimes in various jurisdictions. Audits, investigations, and tax proceedings could have a material adverse effect on our business, operating results, and financial condition.

We are subject to income and non-income taxes in numerous jurisdictions. Income tax accounting often involves complex issues, and judgment is required in determining our worldwide provision for income taxes and other tax liabilities. In particular, most of the jurisdictions in which we conduct business have detailed transfer pricing rules, which require that all transactions with non-resident related parties be priced using arm's length pricing principles within the meaning of such rules. We are subject to ongoing tax audits in several jurisdictions, and most of such audits involve transfer pricing issues. We regularly assess the likely outcomes of these audits in order to determine the appropriateness of our tax reserves as well as tax liabilities going forward. We have initiated and are in negotiations of an Advance Pricing Agreement ("APA") between Sweden and the United States governments for tax years 2014 through 2020 covering various transfer pricing matters. These transfer pricing matters may be significant to our consolidated financial statements. We believe that our tax positions are reasonable and our tax reserves are adequate to cover any potential liability. We believe that our assumptions, judgements, and estimates are also reasonable. However, tax authorities in certain jurisdictions may disagree with our position, including any judgements or estimates used. If any of these tax authorities were successful in challenging our positions, we may be liable for additional income tax and penalties and interest related thereto in excess of any reserves established therefor, which may have a significant impact on our results and operations and future cash flow.

We may not be able to utilize all, or any, of our net operating loss carry-forwards.

We have significant net operating loss carry-forwards in Sweden and the United States. As of December 31, 2020, we had net operating loss carry-forwards of €100 million in Luxembourg, €1,293 million in Sweden, €461 million in the United States relating to federal taxes, and €315 million in the United States relating to state taxes. In certain jurisdictions, if we are unable to earn sufficient income or profits to utilize such carry-forwards before they expire, they will no longer be available to offset future income or profits.

In Sweden, utilization of these net operating loss carry-forwards may be subject to a substantial annual limitation or elimination in full or part if there is an ownership or control change within the meaning of Chapter 40, paragraphs 10-14 of the Swedish Income Tax Act (the "Swedish Income Tax Act"). In general, an ownership or control change, as defined by the Swedish Income Tax Act, results from a transaction or series of transactions over a five-year period resulting in an ownership or control change of a company by certain categories or individuals, businesses or organizations. The treatment of the issuance of the beneficiary certificates in February 2018 is unclear under the Swedish Income Tax Act and there is a risk that such issuance may have constituted an ownership or control change, as defined by the Swedish Income Tax Act. If our issuance of the beneficiary certificates were to be deemed to have constituted an ownership or control change, our ability to use our net operating loss carry-forwards may be limited or eliminated.

In addition, in the United States, utilization of these net operating loss carry-forwards may be subject to a substantial annual limitation if there is an ownership change within the meaning of Section 382 of the Internal Revenue Code ("Section 382"). In general, an ownership change, as defined by Section 382, results from a transaction or series of transactions over a three-year period resulting in an ownership change of more than 50% of the outstanding stock of a company by certain stockholders or public groups. Since our formation, we have raised capital through the issuance of capital stock on several occasions, and we may continue to do so in the future, which, combined with current or future shareholders' disposition of ordinary shares, may have resulted in such an ownership change. Such an ownership change may limit the amount of net operating loss carry-forwards that can be utilized to offset future taxable income.

If the fair market value of our ordinary shares fluctuates unpredictably and significantly on a quarterly basis, the social costs we accrue for share-based compensation may fluctuate unpredictably and significantly, which could result in our failing to meet our expectations or investor expectations for quarterly financial performance. This could negatively impact investor sentiment for the Company, and as a result, adversely impact the price of our ordinary shares.

Social costs are payroll taxes associated with employee salaries and benefits, including share-based compensation that we are subject to in various countries in which we operate. This is not a withholding tax. For the year ended December 31, 2020, we recorded a social cost expense related to share-based compensation of €168 million compared to a €37 million expense for the year ended December 31, 2019.

When the fair market value of our ordinary shares increases on a quarter-to-quarter basis, the accrued expense for social costs will increase, and when the fair market value of ordinary shares falls, the accrued expense will become a reduction in social costs expense, all other things being equal, including the number of vested stock options and exercise price remaining constant. The fair market value of our ordinary shares has been and will likely continue to be volatile. See "—Risks Related to Owning Our Ordinary Shares—The trading price of our ordinary shares has been and will likely continue to be volatile." As a result, the accrued expense for social costs may fluctuate unpredictably and significantly from quarter to quarter, which could result in our failing to meet our expectations or investor expectations for quarterly financial performance. This could negatively impact investor sentiment for the company, and as a result, the price for our ordinary shares.

Approximately 30% of our employees are in Sweden. With respect to our employees in Sweden, we are required to pay a 31.42% tax to the Swedish government on the profit an employee realizes on the exercise of our stock options or the vesting of our RSUs. They accounted for a total of 1,716,413 in vested options as of December 31, 2020 compared to a total of 1,849,493 in vested options as of December 31, 2019. We cannot accurately predict how many of their vested options will remain outstanding. As a result, the cash payments to the Swedish government upon the exercise of vested stock options may vary significantly from quarter to quarter.

Given our levels of share-based compensation, our tax rate may vary significantly depending on our share price.

The tax effects of the accounting for share-based compensation may significantly impact our effective tax rate from period to period. When the share price of awards exercised in the period is greater than the accounting expense for those awards, the resulting excess tax benefits will be presented in equity. This means that although these excess benefits reduce our taxable income and our current tax liability, the benefit is reflected in equity rather than in the consolidated statement of operations. There can be periods when our current tax liability is nil but we disclose an income tax expense in the consolidated statement of operations (with an offsetting credit in equity).

These tax effects are dependent on our share price and level of exercises in a period, which we do not control and could significantly impact our effective tax rate and adversely affect our operating results.

Changes to tax laws, including new proposals on taxing digital companies, in any of the jurisdictions in which we operate could have a material adverse effect on our business, results of operations, and financial condition.

Tax laws, including tax rates, in the jurisdictions in which we operate may change as a result of macroeconomic or other factors outside of our control. For example, various governments and organizations such as the EU and Organization for Economic Co-operation and Development are increasingly focused on tax reform and other legislative or regulatory action to increase tax revenue, such as the imposition of taxes in connection with certain digital services.

The U.S. tax reform enacted in 2017 (informally titled the "Tax Cuts and Jobs Act") introduced a number of significant changes to the U.S. federal income tax rules. Among other things, the Tax Cuts and Jobs Act reduced the marginal U.S. corporate income tax rate from 35% to 21%, limited the deduction for net interest expense, shifted the United States toward a more territorial tax system, and imposed new taxes to combat erosion of the U.S. federal income tax base. Our financial statements for the year ended December 31, 2020 reflect the effects of the applicable provisions within the tax law changes based on current guidance.

Changes in tax laws, treaties, or regulations or their interpretation or enforcement are unpredictable. Any of these occurrences could have a material adverse effect on our results of operations and financial condition.

We may be classified as a passive foreign investment company, which could result in adverse U.S. federal income tax consequences to U.S. Holders of our ordinary shares.

We would be classified as a passive foreign investment company ("PFIC") for any taxable year if, after the application of certain look-through rules, either: (i) 75% or more of our gross income for such year is "passive income" (as defined in the relevant provisions of the Internal Revenue Code of 1986, as amended), or (ii) 50% or more of the value of our assets (determined on the basis of a quarterly average) during such year is attributable to assets that produce or are held for the production of passive income. Based on the trading price of our ordinary shares and the composition of our income, assets and operations, we do not believe that we were a PFIC for U.S. federal income tax purposes for the taxable year ending on December 31, 2020, nor that we will be a PFIC in the foreseeable future. However, this is a factual determination that must be made annually after the close of each taxable year. Moreover, the value of our assets for purposes of the PFIC determination may be determined by reference to the trading price of our ordinary shares, which could fluctuate significantly. Therefore, there can be no assurance that we will not be classified as a PFIC in the future. Certain adverse U.S. federal income tax consequences could apply to a U.S. Holder if we are treated as a PFIC for any taxable year during which such U.S. Holder holds our ordinary shares. Accordingly, each holder of our ordinary shares should consult such holder's tax advisor as to the potential effects of the PFIC rules.

If a United States person is treated as owning at least 10% of our ordinary shares, such holder may be subject to adverse U.S. federal income tax consequences.

If a United States person is treated as owning (directly, indirectly, or constructively) at least 10% of the value or voting power of our ordinary shares, such person may be treated as a "United States shareholder" with respect to each "controlled foreign corporation" in our group (if any). Because our group includes one or more U.S. subsidiaries, certain of our non-U.S. subsidiaries could be treated as controlled foreign corporations (regardless of whether or not we are treated as a controlled foreign corporation). A United States shareholder of a controlled foreign corporation may be required to report annually and include in its U.S. taxable income its pro rata share of "Subpart F income," "global intangible low-taxed income," and investments in U.S. property by controlled foreign corporations, regardless of whether we make any distributions. An individual that is a United States shareholder with respect to a controlled foreign corporation generally would not be allowed certain tax deductions or foreign tax credits that would be allowed to a United States shareholder that is a U.S. corporation. Failure to comply with these reporting obligations may subject a United States shareholder to significant monetary penalties and may prevent the statute of limitations with respect to such shareholder's U.S. federal income tax return for the year for which reporting was due from starting. We cannot provide any assurances that we will assist investors in determining whether any of our non-U.S. subsidiaries is treated as a controlled foreign corporation or whether any investor is treated as a United States shareholder with respect to any such controlled foreign corporation or furnish to any United States shareholders information that may be necessary to comply with the aforementioned reporting and tax paying obligations. A United States investor should consult its advisors regarding the potential application of these rules to an investment in our ordinary shares.

Risks Related to Owning Our Ordinary Shares

The trading price of our ordinary shares has been and will likely continue to be volatile.

The trading price of our ordinary shares has been and is likely to continue to be volatile. In 2020, the trading price of our ordinary shares ranged from $117.64 to $343.30. The market price of our ordinary shares may fluctuate or decline significantly in response to numerous factors, many of which are beyond our control, including:

- the number of our ordinary shares publicly owned and available for trading;
- quarterly variations in our results of operations or those of our competitors;
- the accuracy of our financial guidance or projections;
- our actual or anticipated operating performance and the operating performance of similar companies in the internet, radio, or digital media spaces;
- our announcements or our competitors' announcements regarding new services, enhancements, significant contracts, acquisitions, or strategic investments;
- general economic conditions and their impact on advertising spending;
- the overall performance of the equity markets, including fluctuations due to general economic uncertainty or negative market sentiment, in particular related to the COVID-19 pandemic;
- threatened or actual litigation;
- changes in laws or regulations relating to our Service;
- any major change in our board of directors or management;

- publication of research reports about us or our industry or changes in recommendations or withdrawal of research coverage by securities analysts; and
- sales or expected sales, or repurchases or expected repurchases, of our ordinary shares by us, and our officers, directors, and significant shareholders.

In addition, the stock market in general, and the market for technology companies in particular, have experienced extreme price and volume fluctuations that often have been unrelated or disproportionate to the operating performance of those companies. Price volatility over a given period may cause the average price at which the Company repurchases its ordinary shares to exceed the trading price at a given point in time. Securities class action litigation has often been instituted against companies following periods of volatility in the overall market and in the market price of a company's securities. Such litigation, if instituted against us, could result in very substantial costs, divert our management's attention and resources and harm our business, operating results, and financial condition.

Because of their significant ownership of our ordinary shares and beneficiary certificates, our founders have substantial control over our business, and their interests may differ from our interests or those of our other shareholders. Sales of substantial amounts of our ordinary shares in the public markets by our founders or other shareholders, or the perception that such sales might occur, could reduce the price that our ordinary shares might otherwise attain and may dilute your voting power and your ownership interest in us.

As of December 31, 2020, our founders, Daniel Ek and Martin Lorentzon, beneficially owned or controlled, directly or indirectly, ordinary shares and beneficiary certificates representing 33.5% and 41.9% of the combined voting power of all of our outstanding voting securities, respectively (or 75.4% in the aggregate). See "Item 7.A. Major Shareholders." Additionally, our shareholders have authorized the issuance of up to 1,400,000,000 beneficiary certificates to shareholders of the Company. We may issue additional beneficiary certificates under the total authorized amount at the discretion of our board of directors, of which our founders are members. Pursuant to our articles of association, the beneficiary certificates may be issued at a ratio of between one and 20 beneficiary certificates per ordinary share as determined by our board of directors or its delegate at the time of issuance. For example, in the future, we may issue to Mr. Ek up to 20 beneficiary certificates for each ordinary share he receives upon the exercise of outstanding warrants, of which he currently holds 800,000 in the aggregate.

As a result of this ownership or control of our voting securities, if our founders act together, they will have control over the outcome of substantially all matters submitted to our shareholders for approval, including the election of directors. This may delay or prevent an acquisition or cause the trading price of our ordinary shares to decline. Our founders may have interests different from yours. Therefore, the concentration of voting power among our founders may have an adverse effect on the price of our ordinary shares.

Sales of substantial amounts of our ordinary shares in the public market by our founders, affiliates, or non-affiliates, or the perception that such sales could occur, could adversely affect the trading price of our ordinary shares and may make it more difficult for you to sell your ordinary shares at a time and price that you deem appropriate.

If securities or industry analysts publish inaccurate or unfavorable research about our business or cease publishing research about our business, our share price and trading volume could decline.

The trading market for our ordinary shares will be influenced by the research and reports that securities or industry analysts publish about our Company or us. If one or more of the analysts who cover us downgrade our ordinary shares or publish inaccurate or unfavorable research about our Company, our ordinary share price would likely decline. Further, if one or more of these analysts cease coverage of our Company or fail to publish reports on us regularly, demand for our ordinary shares could decrease, which might cause our ordinary share price and trading volume to decline.

The requirements of being a public company may strain our resources and divert management's attention.

We are subject to the reporting requirements of the Securities Exchange Act of 1934, as amended (the "Exchange Act"), the Sarbanes-Oxley Act, the listing requirements of the NYSE, and other applicable securities rules and regulations. Compliance with these rules and regulations incurs substantial legal and financial compliance costs, makes some activities more difficult, time-consuming, or costly, and places increased demand on our systems and resources. The Exchange Act requires, among other things, that we file annual and current reports with respect to our business and operating results. The Sarbanes-Oxley Act requires, among other things, that we maintain effective disclosure controls and procedures and internal control over financial reporting. In order to maintain disclosure controls and procedures and internal control over financial reporting that meet this standard, significant resources and management oversight are required. As a result, management's attention may be diverted from other business concerns, which could harm our business and operating results.

Provisions in our articles of association, the issuance of beneficiary certificates, and the existence of certain voting agreements may delay or prevent our acquisition by a third party.

Our articles of association contain provisions that may make it more difficult or expensive for a third party to acquire control of us without the approval of our board of directors and, if required, our shareholders. These provisions also may delay, prevent, or deter a merger, acquisition, tender offer, proxy contest, or other transaction that might otherwise result in our shareholders receiving a premium over the market price for their ordinary shares. The provisions include, among others, the authorization granted by the general meeting of shareholders to our board of directors to issue ordinary shares within the limits of the authorized share capital at such times and on such terms as our board of directors may decide for a maximum period of five years after the date of publication in the Luxembourg official gazette (*Recueil électronique des Sociétés et Associations*, as applicable) of the minutes of the relevant general meeting approving such authorization. The general meeting may amend, renew, or extend such authorized share capital and such authorization to the board of directors to issue ordinary shares.

The provisions of our articles of association could discourage potential takeover attempts and reduce the price that investors might be willing to pay for our ordinary shares in the future, which could reduce the trading price of our ordinary shares.

Additionally, the issuance of beneficiary certificates also may make it more difficult or expensive for a third party to acquire control of us without the approval of our founders. See "—The issuance of beneficiary certificates to certain shareholders will limit your voting power and will limit your ability to influence the composition of the board of directors, strategy, or performance of the business. We cannot predict the impact that beneficiary certificates may have on our stock price."

We do not expect to pay cash dividends in the foreseeable future.

We have never declared or paid any cash dividends on our share capital. We currently intend to retain any future earnings for working capital and general corporate purposes and do not expect to pay dividends or other distributions on our ordinary shares in the foreseeable future. As a result, you may only receive a return on your investment in our ordinary shares if you sell some or all of your ordinary shares after the trading price of our ordinary shares increases. You may not receive a gain on your investment when you sell your ordinary shares and you may lose the entire amount of the investment.

Moreover, we are a holding company and have no material assets other than our direct and indirect ownership of shares in our subsidiaries. Our ability to pay any future dividends is subject to restrictions on the ability of our subsidiaries to pay dividends or make distributions to us, including the laws of the relevant jurisdiction in which the subsidiaries are organized or located, as well as any restrictions in the future indebtedness of our subsidiaries or on our ability to receive dividends or distributions from our subsidiaries. Since we are expected to rely primarily on dividends from our direct and indirect subsidiaries to fund our financial and other obligations, restrictions on our ability to receive such funds may adversely impact our ability to fund our financial and other obligations.

The issuance of beneficiary certificates to certain shareholders will limit your voting power and will limit your ability to influence the composition of the board of directors, strategy, or performance of the business. We cannot predict the impact that beneficiary certificates may have on our stock price.

Our shareholders have authorized the issuance of up to 1,400,000,000 beneficiary certificates to shareholders of the Company without reserving to our existing shareholders a preemptive right to subscribe for the beneficiary certificates issued in the future. Entities beneficially owned by our founders, Daniel Ek and Martin Lorentzon, collectively have 365,014,840 beneficiary certificates outstanding as of December 31, 2020. We may issue additional beneficiary certificates under the total authorized amount at the discretion of our board of directors, of which our founders are members. Pursuant to our articles of association, our beneficiary certificates may be issued at a ratio of between one and 20 beneficiary certificates per ordinary share as determined by our board of directors or its delegate at the time of issuance. For example, in the future, we may issue to Mr. Ek up to 20 beneficiary certificates for each ordinary share he receives upon the exercise of outstanding warrants, of which he currently holds 800,000. See "Item 6.B. Compensation—Compensation Discussion & Analysis—Warrants." Each beneficiary certificate entitles its holder to one vote. The beneficiary certificates carry no economic rights and are issued to provide the holders of such beneficiary certificates additional voting rights. The beneficiary certificates, subject to certain exceptions, may not be transferred and will automatically be canceled for no consideration in the case of sale or transfer of the ordinary share to which they are linked. As a result, the issuance of the beneficiary certificates and the voting power that they provide to the shareholders receiving those beneficiary certificates will limit the voting power of minority shareholders and the ability of minority shareholders to influence the composition of the board of directors, strategy, or performance of our business. See "—Because of their significant ownership of our ordinary shares and beneficiary certificates, our founders have substantial control over our business, and their interests may differ from our interests or those of our other shareholders. Sales of substantial amounts of our ordinary shares in the public markets by our founders or other shareholders, or the perception that

such sales might occur, could reduce the price that our ordinary shares might otherwise attain and may dilute your voting power and your ownership interest in us," "Item 7.A. Major Shareholders", and "Item 10.B. Memorandum and Articles of Association—Voting Rights."

Finally, we cannot predict whether the issuance of additional beneficiary certificates will result in a lower or more volatile trading price of our ordinary shares or result in adverse publicity or other adverse consequences. For example, FTSE Russell requires new constituents of its indexes to have greater than five percent of the company's voting rights in the hands of public shareholders, and S&P Dow Jones will not admit companies with multiple-class share structures to certain of its indexes. While we do not have a multiple-class share structure, we cannot predict if we would be excluded from these indexes as a result of the issuance of beneficiary certificates and we cannot assure you that other stock indexes will not take similar actions. Given the sustained flow of investment funds into passive strategies that seek to track certain indexes, exclusion from stock indexes would likely preclude investment by many of these funds and could make our ordinary shares less attractive to other investors. As a result, the trading price of our ordinary shares could be adversely affected.

Risks Related to Investment in a Luxembourg Company and Our Status as a Foreign Private Issuer

As a foreign private issuer, we are exempt from a number of U.S. securities laws and rules promulgated thereunder and are permitted to publicly disclose less information than U.S. companies must. This may limit the information available to holders of the ordinary shares.

We currently qualify as a foreign private issuer, as defined in the rules and regulations of the U.S. Securities and Exchange Commission (the "SEC"), and, consequently, we are not subject to all of the disclosure requirements applicable to companies organized within the United States. For example, we are exempt from certain rules under the Exchange Act, that regulate disclosure obligations and procedural requirements related to the solicitation of proxies, consents or authorizations applicable to a security registered under the Exchange Act. In addition, our officers and directors are exempt from the reporting and "short-swing" profit recovery provisions of Section 16 of the Exchange Act and related rules with respect to their purchases and sales of our securities. For example, some of our key executives may sell a significant amount of ordinary shares and such sales will not be required to be disclosed as promptly as companies organized within the United States would have to disclose. Accordingly, once such sales are eventually disclosed, our ordinary share price may decline significantly. Moreover, we are not required to file periodic reports and financial statements with the SEC as frequently or as promptly as U.S. public companies. We are also not subject to Regulation FD under the Exchange Act, which would prohibit us from selectively disclosing material nonpublic information to certain persons without concurrently making a widespread public disclosure of such information. Accordingly, there may be less publicly available information concerning our company than there is for U.S. public companies.

As a foreign private issuer, we are required to file an annual report on Form 20-F within four months of the close of each fiscal year ended December 31 and furnish reports on Form 6-K relating to certain material events promptly after we publicly announce these events. However, because of the above exemptions for foreign private issuers, our shareholders may not always be afforded the same information generally available to investors holding shares in public companies that are not foreign private issuers.

The rights of our shareholders may differ from the rights they would have as shareholders of a U.S. corporation, which could adversely impact trading in our ordinary shares and our ability to conduct equity financings.

Our corporate affairs are governed by our articles of association and the laws of Luxembourg, including the Luxembourg Company Law (*loi du 10 août 1915 concernant les sociétés commerciales, telle qu'elle a été modifiée*). The rights of our shareholders and the responsibilities of our directors and officers under Luxembourg law are different from those applicable to a corporation incorporated in the United States. See "Item 10.B. Memorandum and Articles of Association —Differences in Corporate Law" for an explanation of the differences. In addition, Luxembourg law governing the securities of Luxembourg companies may not be as extensive as those in effect in the United States, and Luxembourg law and regulations in respect of corporate governance matters might not be as protective of minority shareholders as state corporation laws in the United States. Therefore, our shareholders may have more difficulty in protecting their interests in connection with actions taken by our directors and officers or our principal shareholders than they would as shareholders of a corporation incorporated in the United States.

We are organized under the laws of Luxembourg and a substantial amount of our assets are not located in the United States. It may be difficult for you to obtain or enforce judgments or bring original actions against us or the members of our board of directors in the United States.

We are organized under the laws of Luxembourg. In addition, a substantial amount of our assets are located outside the United States. Furthermore, many of the members of our board of directors and officers reside outside the United States and a substantial portion of their assets are located outside the United States. Investors may not be able to effect service of process within the United States upon us or these persons or enforce judgments obtained against us or these persons in U.S. courts,

including judgments in actions predicated upon the civil liability provisions of the U.S. federal securities laws. Likewise, it may also be difficult for an investor to enforce in U.S. courts judgments obtained against us or these persons in courts located in jurisdictions outside the United States, including judgments predicated upon the civil liability provisions of the U.S. federal securities laws. Awards of punitive damages in actions brought in the United States or elsewhere are generally not enforceable in Luxembourg.

As there is no treaty in force on the reciprocal recognition and enforcement of judgments in civil and commercial matters between the United States and Luxembourg, courts in Luxembourg will not automatically recognize and enforce a final judgment rendered by a U.S. court. A valid judgment obtained from a court of competent jurisdiction in the United States may be entered and enforced through a court of competent jurisdiction in Luxembourg, subject to compliance with the enforcement procedures (exequatur). The enforceability in Luxembourg courts of judgments rendered by U.S. courts will be subject, prior to any enforcement in Luxembourg, to the procedure and the conditions set forth in the Luxembourg procedural code. In addition, actions brought in a Luxembourg court against us, the members of our board of directors, or our officers to enforce liabilities based on U.S. federal securities laws may be subject to certain restrictions. In particular, Luxembourg courts generally do not award punitive damages. Litigation in Luxembourg also is subject to rules of procedure that differ from the U.S. rules. Proceedings in Luxembourg would have to be conducted in the French or German language, and all documents submitted to the court would, in principle, have to be translated into French or German. For these reasons, it may be difficult for a U.S. investor to bring an original action in a Luxembourg court predicated upon the civil liability provisions of the U.S. federal securities laws against us, the members of our board of directors, or our officers. In addition, even if a judgment against the Company, the non-U.S. members of our board of directors, or our officers based on the civil liability provisions of the U.S. federal securities laws is obtained, a U.S. investor may not be able to enforce it in U.S. or Luxembourg courts.

Our articles of association provide that directors and officers, past and present, are entitled to indemnification from us to the fullest extent permitted by Luxembourg law against all liability and expenses reasonably incurred or paid by him or her in connection with any claim, action, suit, or proceeding in which he or she would be involved by virtue of his or her being or having been a director or officer and against amounts paid or incurred by him or her in the settlement thereof, subject to limited exceptions. The rights to and obligations of indemnification among or between us and any of our current or former directors and officers are generally governed by the laws of Luxembourg and subject to the jurisdiction of the Luxembourg courts, unless such rights or obligations do not relate to or arise out of such persons' capacities listed above. Although there is doubt as to whether U.S. courts would enforce this indemnification provision in an action brought in the United States under U.S. federal or state securities laws, this provision could make it more difficult to obtain judgments outside Luxembourg or from non-Luxembourg jurisdictions that would apply Luxembourg law against our assets in Luxembourg.

Luxembourg and European insolvency and bankruptcy laws are substantially different from U.S. insolvency laws and may offer our shareholders less protection than they would have under U.S. insolvency and bankruptcy laws.

As a company organized under the laws of Luxembourg and with its registered office in Luxembourg, we are subject to Luxembourg insolvency and bankruptcy laws in the event any insolvency proceedings are initiated against us including, among other things, Council and European Parliament Regulation (EU) 2015/848 of 20 May 2015 on insolvency proceedings (recast). Should courts in another European country determine that the insolvency and bankruptcy laws of that country apply to us in accordance with and subject to such EU regulations, the courts in that country could have jurisdiction over the insolvency proceedings initiated against us. Insolvency and bankruptcy laws in Luxembourg or the relevant other European country, if any, may offer our shareholders less protection than they would have under U.S. insolvency and bankruptcy laws and make it more difficult for them to recover the amount they could expect to recover in a liquidation under U.S. insolvency and bankruptcy laws.

Item 4. Information on the Company

A. History and Development of the Company

We are a Luxembourg public limited liability company (*société anonyme*), which means that shareholders' liability is limited to their contributions to the company. The shares forming the share capital of a Luxembourg public limited liability company (*société anonyme*) may be publicly traded and registered on a stock exchange. Our legal name is "Spotify Technology S.A." and our commercial name is "Spotify." We were incorporated on December 27, 2006 as a Luxembourg private limited liability company (*société à responsabilité limitée*) and were transformed, on March 20, 2009, into a Luxembourg public limited liability company (*société anonyme*). The principal legislation under which we operate, and under which our ordinary share capital has been created, is the law of 10 August 1915 on commercial companies, as amended, and the law of 19 December 2002 on the register of commerce and companies and the accounting and annual accounts of undertakings and the regulations, as amended, made thereunder.

We are registered with the Luxembourg Trade and Companies' Register under number B.123.052. Our registered office is located at 42-44, avenue de la Gare L-1610 Luxembourg, Grand Duchy of Luxembourg, and our principal operational office is located at Regeringsgatan 19, 111 53 Stockholm, Sweden. Our agent for U.S. federal securities law purposes is Horacio Gutierrez, Head of Global Affairs and Chief Legal Officer, 150 Greenwich Street, 63rd Floor, New York, New York 10007.

On April 3, 2018, we completed a direct listing of the Company's ordinary shares on the NYSE.

On February 14, 2019, we acquired Anchor FM Inc. ("Anchor"), a software company that enables users to create and distribute their own podcasts, for a total purchase consideration of €136 million. The acquisition allows us to leverage Anchor's creator-focused platform to accelerate our path to becoming the world's leading audio platform.

On February 15, 2019, we acquired Gimlet Media Inc. ("Gimlet"), an independent producer of podcast content, for a total purchase consideration of €172 million. The acquisition allows us to leverage Gimlet's in-depth knowledge of original content production and podcast monetization.

On April 1, 2019, we acquired Cutler Media, LLC ("Parcast"), a premier storytelling podcast studio, for a total purchase consideration of €49 million. The acquisition allows us to bolster our content portfolio and utilize Parcast's writers, producers, and researchers in the production of high-quality content.

On March 6, 2020, we acquired Bill Simmons Media Group, LLC ("The Ringer"), a leading creator of sports, entertainment, and pop culture content, for a total purchase consideration of €170 million. The acquisition allows us to expand our content offering, audience reach, and podcast monetization.

On December 8, 2020, we acquired Megaphone LLC ("Megaphone"), a podcast technology company, for a total purchase consideration of €195 million. The acquisition allows us to expand and scale our podcast monetization and product offering for advertisers.

See Note 5 to our consolidated financial statements included elsewhere in this report.

B. Business Overview

Our mission is to unlock the potential of human creativity by giving a million creative artists the opportunity to live off their art and billions of fans the opportunity to enjoy and be inspired by these creators.

We are the most popular global audio streaming subscription service. With a presence in 93 countries and territories and growing, our platform includes 345 million MAUs and 155 million Premium Subscribers as of December 31, 2020.

We currently monetize our Service through both subscriptions and advertising. Our Premium Subscribers grew 24% year-over-year as of December 31, 2020 to 155 million. Our 345 million MAUs grew 27% year-over-year as of December 31, 2020. The Premium Service and Ad-Supported Service live independently, but thrive together. Our Ad-Supported Service serves as a funnel, driving a significant portion of our total gross added Premium Subscribers. With a 25% increase in revenue from our Ad-Supported Service from 2018 to 2019 and a 10% increase in revenue from our Ad-Supported Service from 2019 to 2020, we believe our Ad-Supported Service is a strong and viable stand-alone product with considerable long-term opportunity for growth in Ad-Supported Users, revenue, and gross profit contribution. However, we face intense competition in growing both our Ad-Supported Users and Premium Subscribers, as well as in keeping our users highly engaged. If user engagement declines or if we fail to continue to grow our Ad-Supported User base or Premium Subscriber base, our revenue growth will be negatively impacted. See "Item 3.D. Risk Factors—Risks Related to Our Business Model, Strategy, and Performance—If our efforts to attract prospective users and to retain existing users are not successful, our growth prospects and revenue will be adversely affected."

For the years ended December 31, 2020, 2019, and 2018, we generated €7,880 million, €6,764 million, and €5,259 million in revenue, respectively, representing a CAGR of 22%. For the years ended December 31, 2020, 2019, and 2018, we incurred net losses of €581 million, €186 million, and €78 million, respectively. For the years ended December 31, 2020, 2019, and 2018, our net cash flow from operating activities was €259 million, €573 million, and €344 million, respectively. For the years ended December 31, 2020, 2019, and 2018, our Free Cash Flow was €183 million, €440 million, and €209 million, respectively. Free Cash Flow is a non-IFRS financial measure. For a discussion of Free Cash Flow and a reconciliation to its most closely comparable IFRS measures, see "Item 3.A. Selected Financial Data."

Music Industry Growth Continues to be Led by Streaming

Following more than 10 years of decline as the industry transitioned from physical product sales to streaming access models, the global recorded music business hit its digital inflection point in 2015 and has grown ever since. Global recorded music industry revenues grew 8% to $20.2 billion in 2019, following on growth of 10% in 2018, 8% in 2017, 9% in 2016, and 4% in 2015. Industry-wide streaming revenues grew nearly 23% in 2019, accounting for over 56% of global recorded music industry revenues and more than offsetting the industry's mid-single digit decline in physical sales.

As the largest global audio subscription streaming service, we are a key driver of global recorded music revenue growth. Through December 31, 2020, we have paid more than €21 billion in royalties to certain record labels, music publishers, and other rights holders since our launch. In 2020, our expenses for rights holders grew by 17% compared to the prior year, making us one of the largest engines for revenue growth to artists and labels in the music industry.

Spotify is the Most Popular Global Audio Streaming Subscription Service

Spotify has transformed the way people access and enjoy music and podcasts. Today, millions of people around the world have access to over 70 million tracks, including 2.2 million podcast titles, through Spotify whenever and wherever they want.

We are transforming the music industry by allowing users to move from a "transaction-based" experience of buying and owning music to an "access-based" model, which allows users to stream music on demand. In contrast, traditional radio relies on a linear distribution model in which stations and channels are programmed to deliver a limited song selection with little freedom of choice.

We are actively investing in podcasts and other forms of alternative and spoken word content to complement the music library available through our platform. Approximately 25% of our Monthly Active Users as of December 31, 2020 have consumed this kind of content. We believe offering a more diverse selection of content will lead to a more enriching experience and higher user engagement. To the extent such content is made exclusive to our platform through direct ownership or licensing arrangements, we believe these investments can help differentiate our service, attract incremental users, and enhance engagement.

Spotify is more than an audio streaming service. We are in the discovery business. Every day, fans from around the world trust our brand to guide them to music and entertainment that they would never have discovered on their own. If discovery drives delight, and delight drives engagement, and engagement drives discovery, we believe Spotify wins and so do our users. Our brand reflects culture—and occasionally creates it—by turning vast and intriguing listening data into compelling stories that remind people of the role music and other audio content play in their lives and encourage new fans to join Spotify each week.

Our Business Model

We offer both Premium and Ad-Supported Services. Our Premium and Ad-Supported Services live independently, but thrive together. We believe this business model has allowed us to achieve scale with attractive unit economics and is a critical part of our success. Our Ad-Supported Service serves as a funnel, driving a significant portion of our total gross added Premium Subscribers. With a 10% increase in revenue from our Ad-Supported Service from 2019 to 2020, we believe our Ad-Supported Service is a strong and viable stand-alone product with considerable long-term opportunity for growth in Ad-Supported Users and revenue. However, we face intense competition in growing both our Ad-Supported Users and Premium Subscribers, as well as in keeping our users highly engaged. If user engagement declines or if we fail to continue to grow our Ad-Supported User base or Premium Subscriber base, our revenue growth will be negatively impacted. See "Item 3.D. Risk Factors—Risks Related to Our Business Model, Strategy, and Performance—If our efforts to attract prospective users and to retain existing users are not successful, our growth prospects and revenue will be adversely affected."

We continue to invest heavily in developing our two-sided marketplace with new and better product features and functionality for users and creators and believe our investments are leading to higher user engagement and enjoyment. We provide personalization that drives a unique and tailored experience to each user and the tools for artists to reach the widest fan base.

We are currently in 93 countries and territories, including our July 2020 launch in Russia, Commonwealth of Independent States, and the Balkans, and our February 2021 launch in South Korea. On a geographic basis, all four of our major regions are growing. Europe is our largest region with 119 million MAUs, accounting for 35% of our total MAUs as of December 31, 2020, an increase of 26% from the prior year. In our North America region, MAUs increased by 17% from

December 31, 2019 to December 31, 2020 and now account for 24% of our MAUs. Our two fastest growing regions are Latin America, with 22% of our MAUs, an increase of 26% from December 31, 2019 to December 31, 2020, and the rest of the world, with 19% of our MAUs, an increase of 49% from December 31, 2019 to December 31, 2020.

Despite the worldwide disruption caused by the COVID-19 pandemic and shifted listening patterns, our Ad-Supported Users and Premium Subscribers continued to spend significant time engaging with our Service. Combined, our audience streamed 92 billion hours of content for the year ended December 31, 2020, an increase of 26% compared to the year ended December 31, 2019.

Premium Service

Our Premium Service provides Premium Subscribers with unlimited online and offline high-quality streaming access to our catalog of music and podcasts. In addition to accessing our catalog on computers, tablets, and mobile devices, users can connect through speakers, receivers, televisions, cars, game consoles, and smart devices. The Premium Service offers a music listening experience without commercial breaks.

We generate revenue for our Premium segment through the sale of Premium Services. Premium Services are sold directly to end users and through partners who are generally telecommunications companies that bundle the subscription with their own services or collect payment for the stand-alone subscriptions from end customers.

We offer a variety of subscription pricing plans for our Premium Service, including our standard plan, Family Plan, Duo Plan, and Student Plan, among others, to appeal to users with different lifestyles and across various demographics and age groups. Our pricing varies by plan and is adapted to each local market to align with consumer purchasing power, general cost levels, and willingness to pay for an audio service.

We also bundle the Premium Service with third-party services and products.

In addition, as we have entered into new markets where recurring subscription services are less common, we have expanded our subscription products to include prepaid options and durations other than monthly (both longer and shorter durations), as well as expanded both online and offline payment options.

Premium partner services are priced on a per-subscriber rate in a negotiated agreement.

Revenue for our Premium segment is a function of the number of Premium Subscribers who use our Premium Service. As of December 31, 2020 and 2019, we had approximately 155 million and 124 million Premium Subscribers, respectively. New Premium Subscribers primarily are sourced from the conversion of our Ad-Supported Users. Through both our online platform and external marketing efforts, we engage our Ad-Supported Users by highlighting key features that encourage conversion to our subscription offerings. These efforts include product links, campaigns targeting existing users, and performance marketing across leading social media platforms. Additionally, new subscriber growth also is driven by the success of converting users from our trial programs to full-time Premium Subscribers. These trial campaigns typically offer our Premium Service free or at a discounted price for a period of time.

Ad-Supported Service

Our Ad-Supported Service has no subscription fees and generally provides Ad-Supported Users with limited on-demand online access to our catalog of music and unlimited online access to our catalog of podcasts on their computers, tablets, and compatible mobile devices. We generate revenue for our Ad-Supported segment from the sale of display, audio, and video advertising delivered through advertising impressions across our music and podcast content. We generally enter into arrangements with advertising agencies that purchase advertising on our platform on behalf of the agencies' clients. These advertising arrangements typically specify the type of advertising product, pricing, insertion dates, and number of impressions in a stated period.

Our advertising strategy centers on the belief that advertising products that are based in music and podcasts and are relevant to Ad-Supported Users and podcast listeners can enhance user experiences and provide even greater returns for advertisers. We have historically introduced, and continue to introduce, new advertising products across both music and podcast content. Offering advertisers additional ways to purchase advertising on an automated basis is a key way that we intend to expand our portfolio of advertising products and enhance advertising revenue. Furthermore, we continue to focus on analytics and measurement tools to evaluate, demonstrate, and improve the effectiveness of advertising campaigns on our platform.

Revenue for our Ad-Supported segment is affected primarily by, but not limited to, the number of our Ad-Supported Users, the total content hours per MAU of our Ad-Supported Users, and our ability to provide innovative advertising products that are relevant to our Ad-Supported Users and podcast listeners and enhance returns for our advertising partners.

Licensing Agreements

In order to stream content to our users, we generally secure intellectual property rights to such content by obtaining licenses from, and paying royalties or other consideration to, rights holders or their agents. Below is a summary of certain provisions of our license agreements relating to sound recordings and the musical compositions embodied therein (i.e., the musical notes and the lyrics), as well as podcasts and other non-music content.

Sound Recording License Agreements with Major and Independent Record Labels

We have license agreements with record label affiliates of the three largest music companies—Universal Music Group, Sony Music Entertainment, and Warner Music Group—as well as Merlin, which represents the digital rights on behalf of hundreds of independent record labels. These agreements require us to pay royalties and, in some circumstances, make minimum guaranteed payments. They also often include marketing commitments, advertising inventory, financial and data reporting obligations, and numerous prescriptions about the manner in which the Spotify service is operated. Rights to sound recordings granted pursuant to these agreements accounted for over 78% of music streams for the year ended December 31, 2020. Generally, these license agreements have a multi-year duration, are not automatically renewable, and apply worldwide (subject to agreement on rates with certain rights holders prior to launching in new territories). The license agreements also allow for the record label to terminate the agreement in certain circumstances, including, for example, our failure to timely pay sums due within a certain period, our breach of material terms, and in some situations that could constitute a "change of control" of Spotify. These agreements generally provide that the record labels have the right to audit us for compliance with the terms of these agreements. Further, some agreements contain "most favored nations" provisions, which require that certain material contract terms are at least as favorable as the terms we have agreed to with other record labels. As of December 31, 2020, we have estimated future minimum guarantee commitments of €3.6 billion. See "Item 3.D. Risk Factors—Risks Related to Securing the Rights to the Content We Stream—Minimum guarantees required under certain of our license agreements may limit our operating flexibility and may adversely affect our business, operating results, and financial condition."

We also have direct license agreements with independent labels, as well as companies known as "aggregators" (for example, Believe Digital, CDBaby, Distrokid, and TuneCore). The majority of these agreements are worldwide (subject to agreement on rates with certain rights holders prior to launching in new territories) but others, with local repertoire, are limited to specific territories. These agreements have financial and data reporting obligations and audit rights.

We also offer marketplace programs, some of which may result in a discounted recording royalty rate.

Musical Composition License Agreements with Music Publishers

We generally obtain licenses for two types of rights with respect to musical compositions: mechanical rights and public performance rights.

With respect to mechanical rights, in the United States, the rates that the Copyright Royalty Board set apply both to compositions that we license under the compulsory license in Section 115 of the Copyright Act of 1976 (the "Copyright Act") and to a number of direct licenses that we have with music publishers for U.S. rights, in which the applicable rate is generally pegged to the statutory rate set by the Copyright Royalty Board. In the United States, for the year ended December 31, 2020, all compulsory licenses obtained by us pursuant to Section 115 of the Copyright Act and direct licenses entered into between us and music publishers were administered by a third-party company, the Harry Fox Agency. In January 2021, we obtained a new blanket compulsory license available under U.S. law, administered by an entity called the Mechanical Licensing Collective. The most recent proceeding before the Copyright Royalty Board, known as the "Phonorecords III Proceedings," set the rates for the Section 115 compulsory license for calendar years 2018 to 2022. The Copyright Royalty Board issued its final written determination in November 2018. In March 2019, Google, Amazon, Pandora, and we each filed an appeal of the Copyright Royalty Board's determination. In August 2020, the D.C. Circuit Court of Appeals vacated the Copyright Royalty Board's determination and remanded for further proceedings. Until the rates are determined, our royalty costs both retrospectively and prospectively will be based on management estimates of the rates that will apply. The rates set by the Copyright Royalty Board are also subject to further change as part of future Copyright Royalty Board proceedings.

In the United States, public performance rights are generally obtained through intermediaries known as performing rights organizations ("PROs"), which negotiate blanket licenses with copyright users for the public performance of compositions in their repertory, collect royalties under such licenses, and distribute those royalties to copyright owners. We have obtained public performance licenses from, and pay license fees to, the major PROs in the United States—ASCAP, BMI, and SESAC,

among others. These agreements have music usage reporting obligations on Spotify and typically have one to four-year terms, and are limited to the territory of the United States and its territories and possessions.

In other parts of the world, including Europe, Asia Pacific, and Latin America, we obtain mechanical and performance licenses for musical compositions either through local collecting societies representing publishers or from publishers directly, or a combination thereof. Our license agreements with local collecting societies and direct license agreements with publishers worldwide are generally in place for one to three years and provide for reporting obligations on both us and the licensor and auditing rights for the licensors. Certain of these license agreements also provide for minimum guaranteed payments or advance payment obligations.

Podcast License Agreements with Podcasters and Podcast Networks

With respect to podcasts and other non-music content for which we obtain distribution rights directly from rights holders, we either negotiate licenses directly with individuals or entities or obtain rights through our owned and operated platforms, such as Anchor, Soundtrap for Storytellers, and Spotify for Podcasters, that enable creators to post content directly to our Service after agreeing to comply with the applicable terms and conditions.

For original content that we produce or commission, we typically enter into multi-year commitments. Payment terms for content that we produce or commission will often require payments in advance of delivery of content. Some of these agreements also include participations which may require us to share associated revenues, and can include minimum guarantees, and include other payments contingent on performance of the content.

License Agreement Extensions and Renewals

From time to time, our license agreements with certain rights holders and/or their agents expire while we negotiate their renewals. Per industry custom and practice, we may enter into brief (for example, month-, week-, or even days-long) extensions of those agreements or provisional licenses and/or continue to operate on an at will basis as if the license agreement had been extended, including by our continuing to make content available. It is also possible that such agreements will never be renewed at all. See “Item 3.D. Risk Factors—Risks Related to Securing the Rights to the Content We Stream—We depend upon third-party licenses for most of the content we stream and an adverse change to, loss of, or claim that we do not hold any necessary licenses may materially adversely affect our business, operating results, and financial condition.”

Intellectual Property

The success of our business depends on our ability to protect and enforce our intellectual property rights, including the intellectual property rights underlying our Service. We attempt to protect our intellectual property under patent, trade secret, trademark, and copyright laws through a combination of intellectual property registration, employee or third-party assignment and nondisclosure agreements, other contractual restrictions, technological measures, and other methods.

Seasonality

See “Item 5.D. Trend Information” for a description of the seasonality of our business.

Competition

We compete for the time and attention of our users with various content providers on the basis of a number of factors, including quality of experience, relevance, diversity of content, ease of use, price, accessibility, perception of advertising load, brand awareness, reputation, and presence and visibility of our website and our Spotify application. Our current competitors include Amazon Music, Apple Music, Apple Podcasts, Deezer, Joox, Pandora, SoundCloud, TikTok, YouTube Music, and others with competing services.

We compete with providers of on-demand music, which is purchased or available for free and playable on mobile or other connected devices. These forms of media may be purchased, downloaded, and owned, such as iTunes audio files, MP3s, or CDs, or accessed from subscription or free online on-demand offerings by music providers or content streams from other online services. We face increasing competition for users from a growing variety of businesses, including other free and/or subscription music services around the world, many of which offer services that seek to emulate our Service and/or have differentiated service offerings. Many of our current or future competitors are already entrenched or may have significant brand recognition, existing user bases, and/or ability to bundle with other goods and/or services, both globally and in particular regions and/or markets which we seek to penetrate.

We also compete with providers of podcasts that offer an on-demand catalog of podcast content that is similar to ours. We face increasing competition from a growing variety of podcast providers that seek to differentiate their service by content offering and product features.

Our competitors also include providers of internet radio, terrestrial radio, and satellite radio. Internet radio providers may offer more extensive content libraries than we offer and some may have broader international coverage than our Service. In addition, internet radio providers may leverage their existing infrastructure and content libraries, as well as their brand recognition and user base, to augment their services by offering competing on-demand music features to provide users with more comprehensive music service delivery choices. Terrestrial radio providers often offer their content for free, are well-established and accessible to consumers, and offer media content that we currently do not offer. In addition, many terrestrial radio stations have begun broadcasting digital signals, which provide high-quality audio transmission. Satellite radio providers, such as SiriusXM and iHeartRadio, may offer extensive and exclusive news, comedy, sports and talk content, and national signal coverage.

We also compete for advertisers' budgets with other content providers, including a range of internet companies. See "Item 3.D. Risk Factors—Risks Related to Our Business Model, Strategy, and Performance—We face and will continue to face significant competition for users, user listening time, and advertisers."

Government Regulation

We are subject to many U.S. federal and state, European, Luxembourg, and other foreign laws and regulations, including those related to privacy, data protection, content regulation, intellectual property, consumer protection, rights of publicity, health and safety, employment and labor, competition, and taxation. These laws and regulations are constantly evolving and may be interpreted, applied, created, or amended in a manner that could harm our business. In addition, it is possible that certain governments may seek to block or limit our products or otherwise impose other restrictions that may affect the accessibility or usability of any or all of our products for an extended period of time or indefinitely.

In the area of information security and data protection, the laws in several jurisdictions require companies to implement specific information security controls to protect certain types of information. Data protection, privacy, cybersecurity, consumer protection, content regulation, and other laws and regulations can be very stringent and vary from jurisdiction to jurisdiction. For example, we are subject to the GDPR, which came into effect on May 25, 2018, as well as its implementing legislation in the EU member states. The GDPR imposes stringent operational requirements regarding, among others, data use, sharing and processing, data breach notifications, data subject rights, and cross-border data transfers for entities collecting and/or processing personal data of EU residents and significant penalties for non-compliance (up to EUR 20 million or up to 4% of the total worldwide annual turnover of the preceding financial year, whichever is higher). We will be subject to a similar legal regime in the United Kingdom following its departure from the EU and the end of the transition period, by virtue of its national legislation that imposes similar obligations to the GDPR; the United Kingdom may also implement new or amended data protection legislation. We are subject to the LGPD, which went into effect September 2020 and imposes similar requirements to the GDPR on the collection and processing of data of Brazilian residents, as well as penalties for non-compliance (up to 2% of the Brazil-sourced income for the preceding fiscal year, limited to approximately $11 million per infraction, with the possibility of a daily fine to compel the cessation of violations). We are also subject to the CCPA, which came into effect on January 1, 2020, and imposes heightened transparency obligations, creates new data privacy rights for California residents, and carries significant enforcement penalties for non-compliance (up to $7,500 per intentional violation and $2,500 per other violation) as well as a private right of action for certain data breaches ($750 per incident, per consumer or actual damages, whichever is greater). Furthermore, in Europe, the current political agenda sets as a priority to regain what has been labelled as "EU digital sovereignty." A number of regulatory initiatives are foreseen to tackle the way platforms and digital services providers operate. Similar laws coming into effect in other states, adoption of a comprehensive federal data privacy law, and new legislation in international jurisdictions may continue to change the data protection landscape globally and could result in us expending considerable resources to meet these requirements.

For more information, see "Item 3.D. Risk Factors—Risks Related to Our Operations—Our business is subject to complex and evolving laws and regulations around the world. Many of these laws and regulations are subject to change and uncertain interpretation, and could result in claims, changes to our business practices, monetary penalties, increased cost of operations, or declines in user growth or engagement, or otherwise harm our business." and "—Various existing, new, and changing laws and regulations as well as self-regulation and public concern related to privacy and data security pose the threat of lawsuits, regulatory fines, other liability and reputational harm, require us to expend significant resources, and may harm our business, operating results, and financial condition."

Human Capital Resources

At Spotify, we know that when our employees grow, Spotify grows. We value innovation, sincerity, passion, collaboration, and playfulness. Our objective is to unlock the potential of human creativity by focusing on talent development, supported by robust compensation, benefits, health, safety and wellness programs, and a diverse, inclusive culture.

Talent Development

We enable and empower our employees by offering a number of learning opportunities through a variety of platforms and delivery methods, including face-to-face sessions, virtual and online sessions, and podcasts. We also host onboarding events and programs for new employees to meet other new employees and hear from leaders from around the world, including our global leadership team. We provide development opportunities for both new and seasoned managers to learn how to lead, inspire their direct reports and peers, and shape organizational culture.

Compensation and Benefits

We provide competitive compensation for our employees and a range of flexible benefits, including a tailored incentive mix program, giving our employees the flexibility to choose the incentive mix that best works for them, an industry-leading parental leave policy, flexible public holidays, and one full day of paid time off a year for our employees to give back to social causes of their choice. We are also developing guidelines to provide more flexibility in where and how our employees work.

Health, Safety, and Wellness

We provide our employees and their families with robust healthcare benefits and a variety of health and wellness programs. Through Heart & Soul, our global mental health initiative, we focus on raising awareness and building knowledge, enabling self-care and professional support, and normalizing the conversation around mental health issues. In response to the COVID-19 pandemic, we have taken a number of actions focused on protecting the health and safety of our employees, including having all of our employees work from home starting in March 2020, extending the work-from-home arrangement through September 1, 2021, and providing incremental funds and food allowances to support the employees through the work-from-home period.

Diversity, Inclusion, and Belonging

We are dedicated to fostering a workplace free from discrimination and a culture built on the principle of inclusion. Our Diversity, Inclusion & Belonging team focuses on accelerating diversity, fostering inclusive leadership, enabling good mental health, building a culture of allyship, and amplifying a sense of belonging. During 2020, we focused on increasing diversity through our inclusive diverse recruiting strategy to ensure that we are attracting and retaining unique, innovative and passionate individuals to Spotify, which includes training for interviewers, metrics to measure improvement for our hiring teams, and the tracking of demographic data through our hiring process. In addition, we launched an internal cross-functional coalition that expands our commitment to raising awareness, providing education opportunities, and pursuing other deliverables around racial equity. We also have 13 autonomous Employee Resource Groups that represent the diversity of our workplace and advocate for communities that are often underrepresented in society.

See “Item 6.D. Employees” for more information about our employees.

C. Organizational Structure

The Company's principal subsidiaries as at December 31, 2020 are as follows:

Name	Principal activities	Proportion of voting rights and shares held (directly or indirectly)	Country of incorporation
Spotify AB	Main operating company	100 %	Sweden
Spotify USA Inc.	USA operating company	100 %	USA
Spotify Ltd	Sales, marketing, contract research and development, and customer support	100 %	UK
Spotify Spain S.L.	Sales and marketing	100 %	Spain
Spotify GmbH	Sales and marketing	100 %	Germany
Spotify France SAS	Sales and marketing	100 %	France
Spotify Netherlands B.V.	Sales and marketing	100 %	Netherlands
Spotify Canada Inc.	Sales and marketing	100 %	Canada
Spotify Australia Pty Ltd	Sales and marketing	100 %	Australia
Spotify Brasil Serviços De Música LTDA	Sales and marketing	100 %	Brazil
Spotify Japan K.K	Sales and marketing	100 %	Japan
Spotify India LLP	Sales and marketing	100 %	India
S Servicios de Música México, S.A. de C.V.	Sales and marketing	100 %	Mexico
Spotify Singapore Pte Ltd.	Marketing	100 %	Singapore

D. Property, Plant and Equipment

Spotify's principal operational offices are located in Stockholm, Sweden and New York, New York under leases for approximately 375,000 and 594,000 square feet of office space, respectively, expiring in September 2027 and April 2034, respectively. We also lease regional offices in Los Angeles, California; San Francisco, California; Boston, Massachusetts; Dallas, Texas; Chicago, Illinois; Atlanta, Georgia; Miami, Florida; Nashville, Tennessee; and Washington D.C. We also lease other offices in Sweden and lease office space in Argentina, Australia, Belgium, Brazil, Canada, Colombia, Denmark, Finland, France, Germany, India, Indonesia, Italy, Japan, Luxembourg, Malaysia, Mexico, Netherlands, Norway, Philippines, Poland, Russia, Singapore, South Korea, Spain, Taiwan, the United Arab Emirates, and the United Kingdom.

During 2020, to accommodate anticipated future growth, we continued the build-outs at our new and existing leased office spaces in New York, London and Los Angeles, among others. In 2020, we capitalized €79 million of fixed assets principally related to these build-outs. We have planned capital expenditures of approximately €87 million in 2021 for additional projects in Los Angeles, Stockholm, Berlin, Mumbai, and Miami among others.

We believe that our existing facilities are adequate to meet current requirements and that suitable additional or substitute space will be available as needed to accommodate any further physical expansion of operations and for any additional offices.

While we continue to make investments in offices and information technology infrastructure through purchases of property and equipment and lease arrangements to provide capacity for the growth of our business, we may slow the pace of our investments due to the COVID-19 pandemic.

Item 4A. Unresolved Staff Comments

None

Item 5. Operating and Financial Review and Prospects

For discussion related to our financial condition, changes in financial condition, and the results of operations for 2019 compared to 2018, refer to Part I, Item 5. Operating and Financial Review and Prospects, in our Annual Report on Form 20-F for the fiscal year ended December 31, 2019, which was filed with the SEC on February 12, 2020.

Overview

Our mission is to unlock the potential of human creativity by giving a million creative artists the opportunity to live off their art and billions of fans the opportunity to enjoy and be inspired by these creators.

We are the most popular global audio streaming subscription service. With a presence in 93 countries and territories and growing, our platform includes 345 million MAUs and 155 million Premium Subscribers as of December 31, 2020.

We currently monetize our Service through both subscriptions and advertising. Our Premium Subscribers grew 24% year-over-year as of December 31, 2020 to 155 million. Our 345 million MAUs grew 27% year-over-year as of December 31, 2020.

Acquisitions

On March 6, 2020, we acquired The Ringer, a leading creator of sports, entertainment, and pop culture content, for a total purchase consideration of €170 million. The acquisition allows us to expand our content offering, audience reach, and podcast monetization.

On December 8, 2020, we acquired Megaphone, a podcast technology company, for a total purchase consideration of €195 million. The acquisition allows us to expand and scale our podcast monetization and product offering for advertisers.

Podcast licensing

During the second quarter of 2020, we entered into a multi-year exclusive licensing deal with The Joe Rogan Experience, which debuted on Spotify in September 2020 and became exclusive on the platform in December 2020. We continue to enter into license agreements with producers, publishers, and creators to enhance our podcast content offerings.

How We Generate Revenue

We operate and manage our business in two reportable segments—Premium and Ad-Supported. We identify our reportable segments based on the organizational units used by the chief operating decision maker to monitor performance and make operating decisions. See Note 6 to our consolidated financial statements included elsewhere in this report for additional information regarding our reportable segments.

Premium

Our Premium Service provides Premium Subscribers with unlimited online and offline high-quality streaming access to our catalog of music and podcasts. In addition to accessing our catalog on computers, tablets, and mobile devices, users can connect through speakers, receivers, televisions, cars, game consoles, and smart watches. The Premium Service offers a music listening experience without commercial breaks.

We generate revenue for our Premium segment through the sale of the Premium Service. The Premium Service is sold directly to end users and through partners who are generally telecommunications companies that bundle the subscription with their own services or collect payment for the stand-alone subscriptions from the end user.

We offer a variety of subscription pricing plans for our Premium Service, including our standard plan, Family Plan, Duo Plan, and Student Plan, among others, to appeal to users with different lifestyles and across various demographics and age groups. Our pricing varies by plan and is adapted to each local market to align with consumer purchasing power, general cost levels, and willingness to pay for an audio service. Our Family Plan consists of one primary Premium Subscriber and up to five additional sub-accounts, allowing up to six Premium Subscribers per Family Plan subscription. Our Duo Plan consists of one primary subscriber and up to one additional sub-account, allowing up to two Premium Subscribers per Duo Plan Subscription.

We also bundle the Premium Service with third-party services and products.

In addition, as we have entered into new markets where recurring subscription services are less common, we have expanded our subscription products to include prepaid options and durations other than monthly (both longer and shorter durations), as well as expanded both online and offline payment options.

Premium partner services are priced on a per-subscriber rate in a negotiated agreement.

Revenue for our Premium segment is a function of the number of Premium Subscribers who subscribe to our Premium Service. New Premium Subscribers are sourced primarily from the conversion of our Ad-Supported Users. Through both our online platform and external marketing efforts, we engage our Ad-Supported Users by highlighting key features that encourage conversion to our subscription offerings. These efforts include product links, campaigns targeting existing users, and performance marketing across leading social media platforms. Additionally, new Premium Subscriber growth is driven by the success of converting users from our trial campaigns to full-time Premium Subscribers. These trial campaigns typically offer our Premium Service free or at a discounted price for a period of time.

The rate of net growth in Premium Subscribers also is affected by our ability to retain our existing Premium Subscribers and the mix of subscription pricing plans. We have increased retention over time, as new features and functionality have led to increased user engagement and satisfaction. From a product perspective, while the launches of our Family Plan, Duo Plan, and our Student Plan have decreased Premium ARPU (as further described below) due to the lower price points per Premium Subscriber for these Premium pricing plans, each of these Plans has helped improve retention across the Premium Service.

Our platform is built to work across multiple devices, including smartphones, desktops, cars, game consoles, and in-home devices. We have found that Premium Subscribers who access our Service over multiple devices have higher engagement and lower churn, which increases their expected lifetime value to Spotify.

Ad-Supported

Our Ad-Supported Service has no subscription fees and generally provides Ad-Supported Users with limited on-demand online access to our catalog of music and unlimited online access to our catalog of podcasts on their computers, tablets, and compatible mobile devices. It serves as both a Premium Subscriber acquisition channel and a robust option for users who are unable or unwilling to pay a monthly subscription fee but still want to enjoy access to a wide variety of high-quality audio content.

We generate revenue for our Ad-Supported segment from the sale of display, audio, and video advertising delivered through advertising impressions across our music and podcast content.

We generally enter into arrangements with advertising agencies that purchase advertising on our platform on behalf of the agencies' clients. These advertising arrangements typically specify the type of advertising product, pricing, insertion dates, and number of impressions in a stated period. Revenue for our Ad-Supported segment is comprised primarily of the number and hours of engagement of our Ad-Supported Users and podcast listeners and our ability to provide innovative advertising products that are relevant to those users and enhance returns for our advertising partners. Our advertising strategy centers on the belief that advertising products that are based in music and podcasts and are relevant to Ad-Supported Users and podcast listeners can enhance users' experiences and provide even greater returns for advertisers. Offering advertisers additional ways to purchase advertising on an automated basis is a key way that we intend to expand our portfolio of advertising products and enhance advertising revenue. Furthermore, we continue to focus on analytics and measurement tools to evaluate, demonstrate, and improve the effectiveness of advertising campaigns on our platform.

Revenue from our Ad-Supported segment also will be impacted by the demographic profile of our Ad-Supported Users and podcast listeners and our ability to enable advertisers to reach their target audience with relevant advertising in the geographic markets in which we operate. A large percentage of our Ad-Supported Users are between 18 and 34 years old. This is a highly sought-after demographic that has traditionally been difficult for advertisers to reach. By offering advertisers increased "self-serve options," we expect to improve the efficiency and scalability of our advertising platform. Additionally, we believe that our largest markets, including Europe and North America, are among the top advertising markets globally. However, our continuing expansion into new geographic markets will present monetization challenges. Monetizing our Ad-Supported User base has historically been, and is expected to remain, more challenging in our two fastest growing regions, Latin America and the rest of the world, compared to Europe and North America.

Components of our Operating Results

Cost of Revenue. Cost of revenue consists predominantly of royalty and distribution costs related to content streaming. We incur royalty costs, which we pay to certain record labels, music publishers, and other rights holders, for the right to stream music to our users. Royalties are typically calculated monthly based on the combination of a number of different elements. Generally, Premium Service royalties are based on the greater of a percentage of revenue and a per user amount. Royalties for the Ad-Supported Service are typically a percentage of relevant revenue, although certain agreements are based on the greater of a percentage of relevant revenue and an amount for each time a sound recording and musical composition is streamed. We

have negotiated lower per user amounts for our lower priced subscription plans such as Family Plan, Duo Plan, and Student Plan users. In our agreements with certain record labels, the percentage of revenue used in the calculation of royalties is generally dependent upon certain targets being met. The targets can include such measures as the number of Premium Subscribers, the ratio of Ad-Supported Users to Premium Subscribers, and/or the rates of Premium Subscriber churn. In addition, royalty rates vary by country. Some of our royalty agreements require that royalty costs be paid in advance or are subject to minimum guaranteed amounts. For the majority of royalty agreements incremental costs incurred due to un-recouped advances and minimum guarantees have not been significant to date. We also have certain so-called most favored nation royalty agreements, which require us to record additional costs if certain material contract terms are not as favorable as the terms we have agreed to with similar licensors.

Cost of revenue also includes credit card and payment processing fees for subscription revenue, customer service, certain employee compensation and benefits, cloud computing, streaming, facility, and equipment costs, as well as the amortization of podcast content assets. Amortization of podcast content assets is recorded over the shorter of the estimated useful economic life or the license period (if relevant), and begins at the release of each episode.

Additionally, cost of revenue has historically included discounted trial costs related to our bi-annual trial programs. While we believe our discounted trial programs help drive incremental revenue and gross margins as users convert to full-time Premium Subscribers, these discounted trial programs, which historically have typically begun in the middle of the second and fourth quarters of each year, have led to decreases in gross margins in the first and third calendar quarters as we absorb the promotional expenses of the discounted trial offers. For the year ended December 31, 2020, we offered relatively more free trials compared to discounted trials than during comparable periods and, as a result, there is less impact on gross margin in the year ended December 31, 2020 than in comparable periods.

Research and Development. We invest heavily in research and development in order to drive user engagement and customer satisfaction on our platform, which we believe helps to drive organic growth in new MAUs, which in turn drives additional growth in, and better retention of, Premium Subscribers, as well as increased advertising opportunities to Ad-Supported Users. We aim to design products and features that create and enhance user experiences, and new technologies are at the core of many of these opportunities. Research and development expenses were 11%, 9%, and 9% of our total revenue in each of 2020, 2019, and 2018, respectively. Expenses primarily comprise costs incurred for development of products related to our platform and Service, as well as new advertising products and improvements to our mobile and desktop applications and streaming services. The costs incurred include related employee compensation and benefits costs, consulting costs, and facilities costs. We expect engineers to represent a significant portion of our employees over the foreseeable future.

Many of our new products and improvements to our platform require large investments and involve substantial time and risks to develop and launch. Some of these products may not be well received or may take a long time for users to adopt. As a result, the benefits of our research and development investments may be difficult to forecast.

Sales and Marketing. Sales and marketing expenses primarily comprise employee compensation and benefits, public relations, branding, consulting expenses, customer acquisition costs, advertising, live events and trade shows, amortization of trade name intangible assets, the cost of working with music record labels, publishers, songwriters, and artists to promote the availability of new releases on our platform, and the costs of providing free trials of Premium Services. Expenses included in the cost of providing free trials are derived primarily from per user royalty fees determined in accordance with the rights holder agreements.

General and Administrative. General and administrative expenses primarily comprise employee compensation and benefits for functions such as finance, accounting, analytics, legal, human resources, consulting fees, and other costs including facility and equipment costs, directors' and officers' liability insurance, director fees, and fair value adjustments on contingent consideration.

Key Performance Indicators

We use certain key performance indicators to monitor and manage our business. We use these indicators to evaluate our business, measure our performance, identify trends affecting our business, formulate business plans, and make strategic decisions. We believe these indicators provide useful information to investors in understanding and evaluating our operating results in the same manner we do.

MAUs

We track MAUs as an indicator of the size of the audience engaged with our Service. We define MAUs as the total count of Ad-Supported Users and Premium Subscribers that have consumed content for greater than zero milliseconds in the last thirty days from the period-end indicated. Reported MAUs may overstate the number of unique individuals who actively use our Service within a thirty-day period as one individual may register for, and use, multiple accounts. Additionally, fraud and unauthorized access to our Service may contribute, from time to time, to an overstatement of MAUs, if undetected. Fraudulent accounts typically are created by bots to inflate content licensing payments to individual rights holders. We strive to detect and minimize these fraudulent accounts. Our MAUs in the tables below are inclusive of Ad-Supported Users who may have employed methods to limit or otherwise avoid being served advertisements. For additional information, refer to the risk factors discussed under "Item 3.D. Risk Factors" included elsewhere in this report.

The table below sets forth our MAUs as of December 31, 2020, 2019, and 2018.

	As of December 31,			Change			
	2020	2019	2018	2020 vs. 2019		2019 vs. 2018	
	(in millions, except percentages)						
MAUs	345	271	207	74	27 %	64	31 %

MAUs were 345 million as of December 31, 2020. This represented an increase of 27% from the preceding fiscal year. MAUs benefited from our continued investment in driving the growth of our Service, both through geographic expansion and consumer marketing. MAUs also benefited from continued investment in content and features on our platform, including featured playlists, artist marketing campaigns, podcasts, and original content, to drive increased user engagement and customer satisfaction.

Premium Subscribers

We define Premium Subscribers as users that have completed registration with Spotify and have activated a payment method for Premium Service. Our Premium Subscribers include all registered accounts in our Family Plan and Duo Plan. Our Family Plan consists of one primary subscriber and up to five additional sub-accounts, allowing up to six Premium Subscribers per Family Plan Subscription. Our Duo Plan consists of one primary subscriber and up to one additional sub-account, allowing up to two Premium Subscribers per Duo Plan Subscription. Premium Subscribers includes subscribers in a grace period of up to 30 days after failing to pay their subscription fee.

The table below sets forth our Premium Subscribers as of December 31, 2020, 2019, and 2018.

	As of December 31,			Change			
	2020	2019	2018	2020 vs. 2019		2019 vs. 2018	
	(in millions, except percentages)						
Premium Subscribers	155	124	96	30	24 %	28	29 %

Premium Subscribers were 155 million as of December 31, 2020. This represented an increase of 24% from the preceding fiscal year. The Family Plan was a meaningful contributor of total gross added Premium Subscribers, while our free trial offers and global campaigns also accounted for a significant portion of gross added Premium Subscribers. In addition, there was an increase in the number of Premium Subscribers on our Duo Plan.

Ad-Supported MAUs

We define Ad-Supported MAUs as the total count of Ad-Supported Users that have consumed content for greater than zero milliseconds in the last thirty days from the period-end indicated.

The table below sets forth our Ad-Supported MAUs as of December 31, 2020, 2019, and 2018.

	As of December 31,			Change			
	2020	2019	2018	2020 vs. 2019		2019 vs. 2018	
	(in millions, except percentages)						
Ad-Supported MAUs	199	153	116	46	30 %	37	32 %

Ad-Supported MAUs were 199 million as of December 31, 2020. This represented an increase of 30% from the preceding fiscal year. Ad-Supported MAUs benefited from our continued investment in driving the growth of our Ad-Supported Service, both through geographic expansion and consumer marketing. Ad-Supported MAUs also benefited from continued investment in content and features on our platform, including featured playlists, artist marketing campaigns, podcasts, and original content, to drive increased Ad-Supported User engagement and customer satisfaction.

Premium ARPU

Premium ARPU is a monthly measure defined as Premium revenue recognized in the quarter indicated divided by the average daily Premium Subscribers in such quarter, which is then divided by three months. Annual figures are calculated by averaging Premium ARPU for the four quarters in such fiscal year.

The table below sets forth our average Premium ARPU for the years ended December 31, 2020, 2019, and 2018.

	Year ended December 31,			Change			
	2020	2019	2018	2020 vs. 2019		2019 vs. 2018	
Premium ARPU	€ 4.31	€ 4.72	€ 4.81	€ (0.41)	(9)%	€ (0.09)	(2)%

For the year ended December 31, 2020, Premium ARPU was €4.31. This represented a decrease of 9% from the preceding fiscal year. The decrease was due principally to a change in Premium Subscriber mix, reducing Premium ARPU by €0.27, and movements in foreign exchange rates, reducing Premium ARPU by €0.13.

The table below sets forth our average Premium ARPU for the quarters ended December 31, 2020, 2019, and 2018.

	Three months ended December 31, 2020			Change			
	2020	2019	2018	2020 vs. 2019		2019 vs. 2018	
Premium ARPU	€ 4.26	€ 4.65	€ 4.89	€ (0.39)	(8)%	€ (0.24)	(5)%

For the quarter ended December 31, 2020, Premium ARPU was €4.26. This represented a decrease of 8% from the preceding fiscal year quarter ended December 31. The decrease was due principally to movements in foreign exchange rates, reducing Premium ARPU by €0.24, and a change in Premium Subscriber mix, reducing Premium ARPU by €0.19.

A. Operating Results

Impact of COVID-19 pandemic

The COVID-19 pandemic has created significant volatility, uncertainty, and economic disruption. In response to the COVID-19 pandemic, we have taken a number of actions focused on protecting the health and safety of our employees, maintaining business continuity, and supporting the global music community, including extending the work-from-home arrangement for all employees that began in March 2020 until September 1, 2021, slowing the pace of hiring in 2020, and launching the Spotify COVID-19 Music Relief Project, through which we matched donations to organizations that offer financial relief to those in the music community most in need around the world for a total contribution of $10 million.

Although during the second half of 2020, we have started to see some return to pre-COVID-19 levels in our users' engagement with our Service, the full impact of the COVID-19 pandemic on our business, financial condition, and results of operations will depend on numerous evolving factors that we may not be able to accurately predict and that will vary by market, including the duration and scope of the pandemic, the impact of the pandemic on economic activity, and actions taken by governments, businesses, and individuals in response. For example, although our Ad-Supported revenue returned to growth during the second half of 2020, we have continued to face headwinds to our advertising business. Refer to Part II, Item 1A. "Risk Factors" in this document for further discussion of the impact of the COVID-19 pandemic on our business, operating results, and financial condition.

Revenue

	Year ended December 31,			Change			
	2020	2019	2018	2020 vs. 2019		2019 vs. 2018	
	(in € millions, except percentages)						
Premium	7,135	6,086	4,717	1,049	17 %	1,369	29 %
Ad-Supported	745	678	542	67	10 %	136	25 %
Total	7,880	6,764	5,259	1,116	16 %	1,505	29 %

Premium revenue

For the years ended December 31, 2020 and 2019, Premium revenue comprised 91% of our total revenue. For the year ended December 31, 2020, as compared to 2019, Premium revenue increased €1,049 million or 17%. The increase was attributable primarily to a 24% increase in Premium Subscribers. The year ended December 31, 2020 reflected a change in prior period estimates that reduced revenue by €16 million.

Ad-Supported revenue

For the years ended December 31, 2020 and 2019, Ad-Supported revenue comprised 9% of our total revenue. For the year ended December 31, 2020, as compared to 2019, Ad-Supported revenue increased €67 million or 10%. This increase was due primarily to an increase in revenue from podcasts of €27 million and our self-serve channel of €20 million. Although there was reduced advertising demand in the first half of the year due to the COVID-19 pandemic, Ad-Supported revenue recovered in the later half of the year.

Foreign exchange impact on total revenue

The general strengthening of the Euro relative to certain foreign currencies, primarily the U.S. dollar and Brazilian Real for the year ended December 31, 2020, as compared to 2019, had an unfavorable net impact on our revenue. We estimate that total revenue for the year ended December 31, 2020 would have been approximately €243 million higher if foreign exchange rates had remained consistent with foreign exchange rates for the year ended December 31, 2019.

Cost of revenue

	Year ended December 31,			Change			
	2020	2019	2018	2020 vs. 2019		2019 vs. 2018	
	(in € millions, except percentages)						
Premium	5,126	4,443	3,451	683	15 %	992	29 %
Ad-Supported	739	599	455	140	23 %	144	32 %
Total	5,865	5,042	3,906	823	16 %	1,136	29 %

Effective January 1, 2020, all podcast content costs are recorded in the Ad-Supported segment. Certain reclassifications have been made to the amounts for prior years in order to conform to the current year's presentation.

Premium cost of revenue

For the year ended December 31, 2020, as compared to 2019, Premium cost of revenue increased €683 million, or 15%, and Premium cost of revenue as a percentage of Premium revenue decreased from 73% to 72%. The increase in Premium cost of revenue was driven primarily by an increase in new Premium Subscribers resulting in higher royalty costs, payment transaction fees, and streaming delivery costs of €682 million, €19 million, and €22 million, respectively, partially offset by a decrease in discounted trial costs of €33 million as we had relatively more users on free trials compared to discounted trials year-over-year. The year ended December 31, 2020 included a net €4 million benefit relating to changes in prior period estimates for rights holder liabilities. The year ended December 31, 2019 included charges related to disputes with certain rights holders of €8 million.

Ad-Supported cost of revenue

For the year ended December 31, 2020, as compared to 2019, Ad-Supported cost of revenue increased €140 million, or 23%, and Ad-Supported cost of revenue as a percentage of Ad-Supported revenue increased from 88% to 99%. The increase in Ad-Supported cost of revenue was driven primarily by an increase in podcast costs of €63 million, growth in advertising revenue and streams resulting in higher royalty costs of €47 million, and delivery costs of €18 million. The year ended December 31, 2020 included a charge of €7 million relating to changes in prior period estimates for rights holder liabilities.

Foreign exchange impact on total cost of revenue

The general strengthening of the Euro relative to certain foreign currencies, primarily the U.S. dollar and Brazilian Real for the year ended December 31, 2020, as compared to 2019, had a favorable net impact on our cost of revenue. We estimate that total cost for the year ended December 31, 2020 would have been approximately €185 million higher, if foreign exchange rates had remained consistent with foreign exchange rates for the year ended December 31, 2019.

Gross profit and gross margin

	Year ended December 31,			Change			
	2020	2019	2018	2020 vs. 2019		2019 vs. 2018	
	(in € millions, except percentages)						
Gross profit							
Premium	2,009	1,643	1,266	366	22 %	377	30 %
Ad-Supported	6	79	87	(73)	(92)%	(8)	(9)%
Consolidated	2,015	1,722	1,353	293	17 %	369	27 %
Gross margin							
Premium	28 %	27 %	27 %				
Ad-Supported	1 %	12 %	16 %				
Consolidated	26 %	25 %	26 %				

Premium gross profit and gross margin

For the year ended December 31, 2020, as compared to 2019, Premium gross profit increased by €366 million and Premium gross margin increased from 27% to 28%. The increase in Premium gross margin was due primarily to a decrease in discounted trial costs.

Ad-Supported gross profit and gross margin

For the year ended December 31, 2020, as compared to 2019, Ad-Supported gross profit decreased by €73 million to a gross profit of €6 million, and Ad-Supported gross margin decreased from 12% to 1%. The decrease in Ad-Supported gross margin was due primarily to royalties derived from per play rates in certain markets, where an increase in streams outpaced revenue growth, and an increase in podcast costs. In addition, there was an increase in delivery costs as a percentage of revenue.

Consolidated operating expenses

Research and development

	Year ended December 31,			Change			
	2020	2019	2018	2020 vs. 2019		2019 vs. 2018	
	(in € millions, except percentages)						
Research and development	837	615	493	222	36 %	122	25 %
As a percentage of revenue	11 %	9 %	9 %				

For the year ended December 31, 2020, as compared to 2019, research and development costs increased €222 million, or 36%, as we continually enhance our platform to retain and grow our user base. The increase was due primarily to an increase in personnel-related costs of €208 million, which included increased social costs of €94 million, as a result of share price movements, and increased salaries, share-based compensation, and other employee benefits of €75 million, €24 million, and €15 million, respectively, as a result of increased headcount to support our growth. In addition, there was an increase in information technology costs of €20 million due to an increase in our usage of cloud computing services and additional software license fees. There was also an increase of €11 million due to incremental fees relating to consultants and external contractors. These increases were partially offset by a decrease in expenses relating to travel and employee trainings of €19 million driven by COVID-19 restrictions.

Sales and marketing

	Year ended December 31,			Change			
	2020	2019	2018	2020 vs. 2019		2019 vs. 2018	
	(in € millions, except percentages)						
Sales and marketing	1,029	826	620	203	25 %	206	33 %
As a percentage of revenue	13 %	12 %	12 %				

For the year ended December 31, 2020, as compared to 2019, sales and marketing expense increased by €203 million, or 25%. The increase was due primarily to an increase in the cost of providing free trials of €79 million as a result of an increase in the number of Premium Subscribers on free trials. There was also an increase in personnel-related costs of €71 million, which included increased social costs of €32 million, as a result of share price movements, and increased salaries and share-based compensation of €28 million and €7 million, respectively, as a result of increased headcount to support our growth. In addition, there was an increase in advertising costs of €70 million for marketing campaigns. These increases were partially offset by a decrease in expenses relating to decreased travel and employee trainings of €24 million driven by COVID-19 restrictions.

General and administrative

	Year ended December 31,			Change			
	2020	2019	2018	2020 vs. 2019		2019 vs. 2018	
	(in € millions, except percentages)						
General and administrative	442	354	283	88	25 %	71	25 %
As a percentage of revenue	6 %	5 %	5 %				

For the year ended December 31, 2020, as compared to 2019, general and administrative expense increased €88 million or 25%. The increase was due primarily to an increase in personnel-related costs of €75 million, which included increased salaries and share-based compensation of €27 million and €20 million, respectively, as a result of increased headcount to support our growth, and increased social costs of €23 million, as a result of share price movements. In addition, there was an increase in charitable contributions of €18 million. There was also an increase in external consulting and legal fees of €6 million. These increases were partially offset by a decrease in expenses relating to decreased travel and employee trainings of €17 million driven by COVID-19 restrictions.

Finance income

Finance income consists of fair value adjustment gains on certain financial instruments, interest income earned on our cash and cash equivalents and short term investments, and foreign currency gains.

	Year ended December 31,			Change			
	2020	2019	2018	2020 vs. 2019		2019 vs. 2018	
	(in € millions, except percentages)						
Finance income	94	275	455	(181)	(66)%	(180)	(40)%
As a percentage of revenue	1 %	4 %	9 %				

For the year ended December 31, 2020, as compared to 2019, finance income decreased €181 million. The decrease was due primarily to a decrease in fair value gains recorded for warrants of €133 million. There was also a decrease of €41 million in foreign exchange gains on the remeasurement of monetary assets and liabilities in a transaction currency other than the functional currency.

Finance costs

Finance costs consist of fair value adjustment losses on financial instruments, interest expense, and foreign currency losses.

	Year ended December 31,			Change			
	2020	2019	2018	2020 vs. 2019		2019 vs. 2018	
	(in € millions, except percentages)						
Finance costs	(510)	(333)	(584)	(177)	53 %	251	(43)%
As a percentage of revenue	(6)%	(5)%	(11)%				

For the year ended December 31, 2020, as compared to 2019, finance costs increased by €177 million. The increase was due primarily to an increase of €94 million in foreign exchange losses on the remeasurement of monetary assets and liabilities in a transaction currency other than the functional currency. There was also an increase in fair value losses recorded for warrants of €72 million.

Income tax (benefit)/expense

	Year ended December 31,			Change			
	2020	2019	2018	2020 vs. 2019		2019 vs. 2018	
	(in € millions, except percentages)						
Income tax (benefit)/expense	(128)	55	(95)	(183)	(333)%	150	N/A
As a percentage of revenue	(2)%	1 %	(2)%				

For the year ended December 31, 2020, income tax benefit was €128 million, as compared to income tax expense of €55 million for the year ended December 31, 2019. The change was due primarily to the recognition of deferred taxes as a result of the unrealized increase in the fair value of our long term investment in TME. We will be subject to tax in future periods as a result of foreign exchange movements between USD, EUR, and SEK, primarily related to our investment in TME. We may also be subject to current tax expense in future periods as a result of share-based compensation activity.

Critical Accounting Policies and Estimates

We prepare our consolidated financial statements in accordance with IFRS as issued by the IASB. Preparing these financial statements requires us to make estimates and assumptions that affect the reported amounts of assets, liabilities, equity, revenue, expenses, and related disclosures. We evaluate our estimates and assumptions on an ongoing basis. Our estimates are based on historical experience and various other assumptions that we believe to be reasonable under the circumstances. Our actual results may differ from these estimates.

The critical accounting policies, estimates, assumptions, and judgments that we believe to have the most significant impact on our consolidated financial statements are described below.

Revenue Recognition

Premium Revenue

We generate revenue for our Premium segment from the sale of Premium Services. Premium Services are sold directly to end users and through partners who are generally telecommunications companies that bundle the subscription with their own services or collect payment for the stand-alone subscriptions from the end user.

Premium Services sold directly to end users are typically paid monthly in advance. We satisfy our performance obligation, and revenue from these services is recognized, on a straight-line basis over the subscription period.

We periodically provide discounted trial periods for Premium Services. Consideration received for the discounted trial periods is recognized in revenue on a straight-line basis over the term of the discounted trial period.

Premium Services sold through partners are recognized as revenue based on a per-subscriber rate in a negotiated partner agreement. Under these arrangements, a Premium partner may bundle the Premium Service with its existing product offerings or offer the Premium Service as an add-on. We satisfy our performance obligation, and revenue from these services is recognized, on a straight-line basis over the subscription period. We assess the facts and circumstances, including whether the partner is acting as a principal or agent, of all partner revenue arrangements and then recognize revenues either gross or net. Premium partner services, whether recognized gross or net, have one material performance obligation which is the delivery of our Premium Service.

We also bundle the Premium Service with third-party services and products. In bundle arrangements where we have multiple performance obligations, the transaction price is allocated to each performance obligation based on the relative stand-alone selling price. We generally determine stand-alone selling prices based on the prices charged to customers. For each performance obligation within the bundle, revenue is recognized either on a straight-line basis over the subscription period or at a point in time when control of the service or product is transferred to the customer.

Ad-Supported Revenue

We generate revenue for our Ad-Supported segment primarily through display, audio, and video advertising delivered through advertising impressions and podcast downloads. We enter into arrangements with advertising agencies that purchase advertising on our platform on behalf of the agencies' clients and directly with some large advertisers. These advertising arrangements are typically sold on a cost-per-thousand basis and are evidenced by an Insertion Order ("IO") that specifies the terms of the arrangement such as the type of advertising product, pricing, insertion dates, and number of impressions or downloads in a stated period. Ad-Supported revenue is recognized upon delivery of impressions or downloads. IOs may include multiple performance obligations as they generally contain several different advertising products that each represents a separately identifiable promise within the contract. For such arrangements, we allocate Ad-Supported revenue to each performance obligation on a relative stand-alone selling price basis. We determine stand-alone selling prices based on the prices charged to customers. We also may offer cash rebates to advertising agencies based on the volume of advertising inventory purchased. These rebates are estimated based on historical data and projected spend and result in a reduction of revenue recognized.

Additionally, we generate Ad-Supported revenue through arrangements with certain advertising exchange platforms to distribute advertising inventory for purchase on a cost-per-thousand basis through their automated exchange. Ad-Supported revenue is recognized over time when impressions are delivered on the platform.

Share-based Compensation

Our employees and members of our board of directors receive remuneration in the form of share-based compensation transactions, whereby employees and directors render services in consideration for equity instruments.

The fair value of a stock option is estimated on the grant date using the Black-Scholes option-pricing model. The fair value of an RSU or restricted stock award is measured using the fair value of our ordinary shares on the date of the grant. Stock-based compensation expense is recognized, net of forfeitures, over the requisite service periods of the awards, which is generally less than five years.

Our use of the Black-Scholes option-pricing model requires the input of highly subjective assumptions, including expected term of the option, expected volatility of the price of our ordinary shares, risk-free interest rates, and the expected dividend yield of our ordinary shares. The assumptions used in our option-pricing model represent management's best estimates. These estimates involve inherent uncertainties and the application of management's judgment. If factors change and different assumptions are used, our stock-based compensation expense could be materially different in the future.

We also must estimate a forfeiture rate to calculate the stock-based compensation expense for our awards. Our forfeiture rate is based on an analysis of our actual forfeitures. We will continue to evaluate the appropriateness of the forfeiture rate based on actual forfeiture experience, analysis of employee turnover, and other factors. Changes in the estimated forfeiture rate can have a significant impact on our stock-based compensation expense as the cumulative effect of adjusting the rate is recognized in the period the forfeiture estimate is changed. A higher revised forfeiture rate than previously estimated will result in an adjustment that will decrease the stock-based compensation expense recognized in the consolidated statement of

operations. A lower revised forfeiture rate than previously estimated will result in an adjustment that will increase the stock-based compensation expense recognized in the consolidated statement of operations.

We will continue to use judgment in evaluating the assumptions related to our stock-based compensation on a prospective basis. As we accumulate additional data related to our ordinary shares, we may have refinements to our estimates, which could materially impact our future stock-based compensation expense.

Social costs are payroll taxes associated with employee salaries and benefits, including share-based compensation. Social costs in connection with granted options and RSUs are accrued over the vesting period based on the intrinsic value of the award that has been earned at the end of each reporting period. The amount of the liability reflects the amortization of the award and the impact of expected forfeitures. The social cost rate at which the accrual is made generally follows the tax domicile within which other compensation charges for a grantee are recognized.

Content

We incur royalty costs for the right to stream music to our users, paid to record labels, music publishers, and other rights holders. Royalties are calculated using negotiated rates in accordance with license agreements, estimates of those rates in instances where rights holders are not identified, or rates as determined by government bodies. Calculations are based on either Premium and Ad-Supported revenue earned or user/usage measures or a combination of these. The rights holder agreements are complex and our determination of royalties payable involves certain significant judgments, assumptions, and estimates in addition to complex systems and a significant volume of data to be processed and analyzed. In particular, in certain jurisdictions rights holders have several years to claim royalties for works streamed each month. As such, the royalty costs incurred in a period might not be fully settled for a number of years and are estimated. The estimate of royalty costs requires us to make assumptions about the rates to be recorded for streams where the rights holder is not identified and the potential incidence of duplicate claims. These estimates are subject to revision until settlement. Considering the number of variables impacting the amounts owed, the actual outcome could be different than our estimates, resulting in an additional accrual or release of previously recorded liabilities.

Some rights holders have allowed the use of their content on our platform while negotiations of the terms and conditions of individual agreements or determination of statutory rates are ongoing. In these instances, royalties are calculated based on our best estimate of the eventual payout. In addition, on August 11, 2020, the United States Court of Appeals for the D.C. Circuit issued an opinion which, as of the issuance of the formal “mandate” on October 26, 2020, vacated the Copyright Royalty Board’s determination of the royalty rates for applicable mechanical rights in the United States for calendar years 2018 to 2022. These rates apply both to compositions that we license under compulsory license in Section 115 of the Copyright Act of 1976 and to a number of direct licenses that we have with music publishers. Until the rates are determined, our recorded royalty costs both retrospectively and prospectively will be based on management estimates of the rates that will apply. When the rates are determined anew, these could either benefit or adversely affect our results of operations and financial condition.

Many of the rights holders agreements include the right to audit our royalty payments, and any such audit could result in disputes over whether we have paid the proper royalties. Given the complexity of the arrangements, if such a dispute were to occur, we could be required to pay additional royalties, and the amounts involved could be material.

The majority of our rights holder liabilities are settled on commercial payment terms shortly after they are incurred. However, certain of these liabilities are not settled for more significant periods of time due to uncertainties related to the reasons discussed above. Of the total accruals and provisions to rights holders at December 31, 2020 and December 31, 2019, approximately €418 million and €295 million, respectively, relate to liabilities that were incurred more than twelve months prior to the date of the statement of financial position. Of the December 31, 2020 amount, €13 million was expensed in the year ended December 31, 2020 due to an increase of estimates included in the financial statements for the year ended December 31, 2019.

We have certain arrangements whereby royalty costs are paid in advance or are subject to minimum guaranteed amounts. These minimum guarantee amounts have been disclosed in Note 25 of the consolidated financial statements, included elsewhere in this report. An accrual is established when actual royalty costs to be incurred during a contractual period are expected to fall short of the minimum guaranteed amounts. For minimum guarantee arrangements for which we cannot reliably predict the underlying expense, we will expense the minimum guarantee on a straight-line basis over the term of the arrangement. We also have certain royalty arrangements where we would have to make additional payments if the royalty rates for specified periods were below those paid to certain other licensors (most favored nation clauses). For rights holders with this clause, we compare royalties incurred to date plus estimated royalties payable for the remainder of the period to estimates of the royalties payable to other appropriate rights holders, and the shortfall, if any, is recognized on a straight-line basis over the

period of the applicable most favored nation clause. An accrual and expense is recognized when it is probable that we will make additional royalty payments under these terms. The expense related to these accruals is recognized in cost of revenue.

Amortization of podcast content assets is recorded in cost of revenue over the shorter of the estimated useful economic life or the license period, and begins at the release of each episode. The economic life and expected amortization profile of podcast content assets is estimated by management based on historical listening patterns and is evaluated on an ongoing basis. Determining these estimates requires significant judgment by management.

Provisions

From time to time, we are involved in legal actions or other third-party assertions related to content on our platform. There can be no assurance these actions or other third-party assertions will be resolved without costly litigation in a manner that does not adversely impact our financial position, results of operations, or cash flows, or without requiring higher royalty payments in the future, which may adversely impact gross margins. We record a liability when it is probable that a loss has been incurred and the amount can be reasonably estimated. In determining the probability of a loss and consequently, determining a reasonable estimate, management is required to use significant judgment. Given the uncertainties associated with any litigation, the actual outcome can be different from our estimates and could adversely affect our results of operations, financial position, and cash flows. See “Risk Factors—Risks Related to Securing the Rights to the Content We Stream—Our royalty payment scheme is complex, and it is difficult to estimate the amount payable under our license agreements.”

Warrants

Our warrants are re-measured at each reporting date using valuation models using input data. The change in fair value of these financial liabilities are recognized in finance income or cost in the consolidated statement of operations. Our ordinary share price is a primary driver of the fair value of the warrants. If factors change and different assumptions are used, our finance costs (net) could be materially different in the future. Please refer to “Item 11. Quantitative and Qualitative Disclosures About Market Risk” included elsewhere in this report for additional information on the share price risk relate to our warrants.

See Note 24 to our consolidated financial statements included elsewhere in this report for additional information on the valuation models used for our warrants.

Income Taxes

We are subject to income taxes in Luxembourg, Sweden, the United States, and numerous foreign jurisdictions. Significant judgment is required in determining our uncertain tax positions.

Deferred tax assets are recognized for unused tax losses, unused tax credits, and deductible temporary differences to the extent that it is probable that future taxable profits will be available, against which they can be used. Unused tax loss carry-forwards are reviewed at each reporting date and have not been recorded when we believe we will not generate future taxable income to utilize the loss carry-forwards.

In determining the amount of current and deferred income tax, we take into account the impact of uncertain tax positions and whether additional taxes, interest, or penalties may be due. Although we believe that we have adequately reserved for our uncertain tax positions, we can provide no assurance that the final tax outcome of these matters will not be materially different. We adjust these reserves when facts and circumstances change, such as the closing of a tax audit or the refinement of an estimate. To the extent that the final tax outcome of these matters is different than the amounts recorded, such differences will affect the provision for income taxes in the period in which such determination is made and could have a material impact on our financial condition and operating results.

We have initiated and are in negotiations of an APA between Sweden and the United States governments for tax years 2014 through 2020 covering various transfer pricing matters. These transfer pricing matters may be significant to our consolidated financial statements. In addition, we are subject to the continuous examination of our income tax returns by various tax authorities which could result in assessments against us.

Business Combinations

In business combinations, we allocate the fair value of purchase consideration to the tangible assets acquired, liabilities assumed, and intangible assets acquired based on their estimated fair values. The excess of the fair value of purchase consideration over the fair values of these identified assets and liabilities is recorded as goodwill. Such valuations require

management to make significant estimates, assumptions, and judgments, especially with respect to intangible assets and contingent consideration.

Lease Agreements

As most of our lease agreements do not provide an implicit rate of return, we use our incremental borrowing rate based on the information available at the lease commencement date to determine the present value of lease payments. For our lease agreements that existed prior to the adoption date of IFRS 16, we determined our incremental borrowing rate as of January 1, 2019. Our incremental borrowing rate is determined based on estimates and judgments, including the credit rating of our leasing entities and a credit spread.

Goodwill Impairment

In accordance with the accounting policy described in Note 2 to our consolidated financial statements included elsewhere in this report, we annually perform an impairment test regarding goodwill. The assumptions used for estimating fair value and assessing available headroom based on conditions that existed at the testing date are disclosed in Note 14 to our consolidated financial statements included elsewhere in this report.

Recent Accounting Pronouncements

See Note 2 to our consolidated financial statements included elsewhere in this report for recently adopted accounting pronouncements and recently issued accounting pronouncements not yet adopted as of the dates of the statement of financial position included in this report.

B. Liquidity and Capital Resources

Our principal sources of liquidity are our cash and cash equivalents, short term investments, and cash generated from operations. Cash and cash equivalents and short term investments consist mostly of cash on deposit with banks, investments in money market funds, and investments in government and agency securities, corporate debt securities, and collateralized reverse purchase agreements. Cash and cash equivalents and short term investments decreased by €10 million from €1,757 million as of December 31, 2019 to €1,747 million as of December 31, 2020.

We believe our existing cash and cash equivalents, short term investments, and the cash flow we generate from our operations will be sufficient to meet our working capital and capital expenditure needs and other liquidity requirements for at least the next 12 months. However, our future capital requirements may be materially different than those currently planned in our budgeting and forecasting activities and depend on many factors, including our rate of revenue growth, the timing and extent of spending on content and research and development, the expansion of our sales and marketing activities, the timing of new product introductions, market acceptance of our products, our continued international expansion, the acquisition of other companies, competitive factors, and overall economic conditions, globally. To the extent that current and anticipated future sources of liquidity are insufficient to fund our future business activities and requirements, we may be required to seek additional equity or debt financing. The sale of additional equity would result in additional dilution to our shareholders, while the incurrence of debt financing would result in debt service obligations. Such debt instruments also could introduce covenants that might restrict our operations. Furthermore, such additional equity or debt financing might not be available on acceptable terms, if at all. See “Item 3.D. Risk Factors—Risks Related to Our Operations—We may require additional capital to support business growth and objectives, and this capital might not be available on acceptable terms, if at all.”

While the COVID-19 pandemic has not materially impacted our liquidity and capital resources to date, it has led to increased disruption and volatility in capital markets and credit markets. The pandemic and resulting economic uncertainty could adversely affect our liquidity and capital resources in the future. Based on past performance and current expectations, we believe our strong cash and cash equivalents and short term investments position are critical at this time of uncertainty, and allow us to use our cash resources for working capital needs, capital expenditures, investment requirements, contractual obligations, commitments, and other liquidity requirements associated with our operations. See “Item 3.D. Risk Factors—Risks Related to Our Business Model, Strategy, and Performance—The COVID-19 pandemic has had, and could continue to have, an adverse impact on our business, operating results, and financial condition.”

On November 5, 2018, we announced that we would commence a share repurchase program that began in the fourth quarter of 2018. Repurchases of up to 10,000,000 of the Company’s ordinary shares have been authorized by the Company’s general meeting of shareholders, and the board of directors approved such repurchase up to the amount of $1.0 billion. As of December 31, 2020, we had repurchased an aggregate of 4,366,427 ordinary shares for a total of approximately $572 million under the share repurchase program. The authorization to repurchase will expire on April 21, 2021 unless renewed by decision

of a general meeting of shareholders of the Company. The timing and actual number of shares repurchased will depend on a variety of factors, including price, general business and market conditions, and alternative investment opportunities. The repurchase program will be executed consistent with our capital allocation strategy of prioritizing investment to grow the business over the long term. Under the repurchase program, repurchases can be made from time to time using a variety of methods, including open market purchases, all in compliance with the rules of the Commission and other applicable legal requirements. The repurchase program does not obligate the Company to acquire any particular amount of ordinary shares, and the repurchase program may be suspended or discontinued at any time at the Company's discretion. We may use current cash and cash equivalents, short term investments, and the cash flow we generate from our operations to fund our share repurchase program.

Cash Flow

	Year ended December 31,		
	2020	2019	2018
		(in € millions)	
Net cash flows from operating activities	259	573	344
Net cash flows used in investing activities	(372)	(218)	(22)
Net cash flows from/(used in) financing activities	285	(203)	92

For the year ended December 31, 2020, as compared to 2019, net cash flows from operating activities decreased by €314 million. The decrease was due primarily to an increase in operating loss of €220 million, partially offset by non-cash items including depreciation, amortization, and share-based compensation expense. In addition, there was an increase in interest payments on lease liabilities of €18 million.

For the year ended December 31, 2020, as compared to 2019, net cash flows used in investing activities increased by €154 million, due primarily to an increase in purchases of short term investments of €453 million, partially offset by an increase in sales and maturities of short term investments of €258 million and a decrease in capital expenditures of €57 million.

For the year ended December 31, 2020, as compared to 2019, net cash flows from financing activities increased by €488 million, due primarily to an increase in proceeds from the exercise of stock options of €165 million, partially offset by a decrease in proceeds from the exercise of warrants of €74 million. The year ended December 31, 2019 included €438 million in repurchases of ordinary shares, with no material repurchases occurring during the year ended December 31, 2020.

Free Cash Flow

	Year ended December 31,		
	2020	2019	2018
		(in € millions)	
Free Cash Flow	183	440	209

For the year ended December 31, 2020, as compared to 2019, Free Cash Flow decreased by €257 million. The decrease in Free Cash Flow was due primarily to a decrease in net cash flows from operating activities of €314 million, as described above, partially offset by a decrease in capital expenditures of €57 million.

For a discussion of the limitations associated with using Free Cash Flow rather than IFRS measures and a reconciliation of Free Cash Flow to net cash flows from operating activities, see "Item 3.A. Selected Financial Data."

Indebtedness

As of December 31, 2020, we have no material outstanding indebtedness, other than lease liabilities. We may from time to time seek to incur additional indebtedness. Such indebtedness, if any, will depend on prevailing market conditions, our liquidity requirements, contractual restrictions, and other factors. The amounts involved may be material.

On April 3, 2018, we completed a direct listing of the Company's ordinary shares on the NYSE. Upon the direct listing, the outstanding liability relating to the Company's Convertible Notes was reclassified to equity. See Note 20 to our consolidated financial statements, included elsewhere in this report, for further information regarding the Convertible Notes.

C. Research and Development, Patents and Licenses

For a detailed analysis of research and development costs, see "Item 4.B. Business Overview" and "Item 5. Operating and Financial Review and Prospects."

D. Trend Information

Our results reflect the effects of our bi-annual trial programs, both discounted and free trials, in addition to seasonal trends in user behavior and, with respect to our Ad-Supported segment, advertising behavior. Historically, Premium Subscriber growth accelerates when we run bi-annual trial programs in the summer and winter, which typically begin in the middle of the second and fourth quarters. Historically, discounted trial programs have led to decreases in gross margin in the first and third quarter of each year, as discounted trial costs are included in costs of revenue, while the costs of providing free trials are included in sales and marketing expense and do not impact gross margin. For the year ended December 31, 2020, we offered relatively more free trials compared to discounted trials than during comparable periods in prior years, and, as a result, there is less impact on gross margin.

For our Ad-Supported segment, typically we experience higher advertising revenue in the fourth quarter of each calendar year due to greater advertising demand during the holiday season. However, in the first quarter of each calendar year, we typically experience a seasonal decline in advertising revenue due to reduced advertiser demand.

Other than as disclosed here and elsewhere in this report, we are not aware of any trends, uncertainties, demands, commitments, or events since December 31, 2020 that are reasonably likely to have a material adverse effect on our revenues, income, profitability, liquidity, or capital resources, or that would cause the disclosed financial information to be not necessarily indicative of future operating results or financial conditions.

E. Off-balance sheet arrangements

As of December 31, 2020, we do not have transactions with unconsolidated entities, such as entities often referred to as structured finance or special purpose entities, whereby we have financial guarantees, subordinated retained interests, derivative instruments, or other contingent arrangements that expose us to material continuing risks, contingent liabilities, or any other obligation under a variable interest in an unconsolidated entity that provides financing, liquidity, market risk, or credit risk support to us.

F. Tabular disclosure of contractual obligations

The following table sets forth our contractual obligations and commercial commitments as of December 31, 2020:

	Payments due by period				
Contractual obligations:	**Total**	**Less than 1 year**	**1-3 years**	**3-5 years**	**More than 5 years**
			(in € millions)		
Minimum guarantees [1]	3,576	317	3,144	115	—
Lease obligations [2]	902	82	169	169	482
Purchase obligations [3]	898	279	619	—	—
Deferred and contingent consideration [4]	74	22	32	20	—
Total	**5,450**	**700**	**3,964**	**304**	**482**

(1) We are subject to minimum guarantees relating to the content on our service, the majority of which relate to minimum royalty payments associated with our license agreements for the use of licensed content. See "Item 3.D. "Risk Factors".

(2) Included in the lease obligations are short term leases and certain lease agreements that we have entered into, but have not yet commenced as of December 31, 2020. Lease obligations relate to our office space. The lease terms are between one and fourteen years. See Note 12 to the consolidated financial statements for further details regarding leases.

(3) We are subject to various non-cancelable purchase obligations and service agreements with minimum spend commitments, the majority of which relate to a service agreement with Google for the use of Google Cloud Platform and certain podcast commitments.

(4) Included in deferred consideration are obligations to transfer €41 million of cash consideration over the next five years to former owners of certain entities we have acquired. Included in contingent consideration is the obligation to transfer a maximum of €33 million of contingent cash payment consideration over the next two years to former owners of an entity we acquired if specified user engagement targets are achieved.

Item 6. Directors, Senior Management and Employees

A. Directors and Senior Management

The following table sets forth the names, ages, and positions of our senior management and directors as of the date of this report:

Name	Age	Position
Daniel Ek	37	Founder, Chief Executive Officer, Chairman, and Director
Martin Lorentzon	51	Co-Founder and Director
Paul Vogel	47	Chief Financial Officer
Katarina Berg	52	Chief Human Resources Officer
Horacio Gutierrez	56	Head of Global Affairs & Chief Legal Officer
Alex Norström	44	Chief Freemium Business Officer
Dawn Ostroff	60	Chief Content & Advertising Business Officer
Gustav Söderström	44	Chief Research & Development Officer
Christopher Marshall	52	Lead Independent Director
Barry McCarthy	67	Director
Shishir Mehrotra	41	Director
Heidi O'Neill	56	Director
Ted Sarandos	56	Director
Thomas Staggs	60	Director
Cristina Stenbeck	43	Director
Padmasree Warrior	60	Director

The business address of each director and each of Mr. Ek, Mr. Lorentzon, Ms. Berg, Mr. Norström, and Mr. Söderström is Regeringsgatan 19, 111 53 Stockholm, Sweden. The business address of each of Ms. Ostroff, Mr. Gutierrez, and Mr. Vogel is 150 Greenwich Street, 63rd Floor, New York, New York 10007. The following is a brief biography of each of our senior managers and directors:

Daniel Ek is our founder, Chief Executive Officer, and Chairman of our board of directors. As our Chief Executive Officer and Chairman, Mr. Ek is responsible for guiding the vision and strategy of the Company and leading the management team. He has been a member of our board of directors since July 21, 2008, and his term will expire on the date of the general meeting of shareholders to be held to approve the annual accounts of 2020. Prior to founding Spotify in 2006, Mr. Ek founded Advertigo, an online advertising company acquired by Tradedoubler, held various senior roles at the Nordic auction company Tradera, which was acquired by eBay, and served as Chief Technology Officer at Stardoll, a fashion and entertainment community for pre-teens.

Martin Lorentzon is our co-founder and a member of our board of directors. He has been a member of our board of directors since July 21, 2008, and his term will expire on the date of the general meeting of shareholders to be held to approve the annual accounts of 2020. Mr. Lorentzon previously served as Chairman of our board of directors from 2008 to 2016. In addition to his role on our board of directors, Mr. Lorentzon served as a member of the board of directors of Telia Company AB ("Telia Company"), Sweden's main telecom operator, from 2013 to 2018. In 1999, Mr. Lorentzon founded Tradedoubler, an internet marketing company based in Stockholm, Sweden, and initially served as a member of its board of directors. Additionally, Mr. Lorentzon has held senior roles at Telia Company and Cell Ventures. He holds a Master of Science in Civil Engineering from the Chalmers University of Technology.

Paul Vogel is our Chief Financial Officer. He is responsible for overseeing the Company's financial affairs. Mr. Vogel previously served as the Company's Head of Financial Planning & Analysis, Treasury and Investor Relations from 2016 to January 2020. Before joining Spotify, he spent the majority of his career in the investment community as a portfolio manager and equity research analyst, most recently serving as a Managing Director and Head of the Internet and Media Equity Research team at Barclays. Prior to Barclays, Mr. Vogel held various roles in finance, including as a Portfolio Manager at AllianceBernstein and a Research Analyst at Morgan Stanley and DLJ. He is a CFA Charterholder and holds a Bachelor of Arts in Economics from the University of Pennsylvania.

Katarina Berg is our Chief Human Resources Officer. She oversees all aspects of human resource management and is responsible for developing and executing the people strategy in support of our overall business plan. Ms. Berg serves as a member of the board of directors of House of Education and as member of the advisory board of directors of ToppHälsa, Bonnier Tidskrifter. Before joining our team, Ms. Berg held human resources roles in various multinational companies, such as Swedbank, 3 Scandinavia, and Kanal 5 (SBS Broadcasting). Ms. Berg holds a Master of Arts in Human Resources Management and Development in Behavioral Science from Lund University.

Horacio Gutierrez is our Head of Global Affairs and Chief Legal Officer. In this capacity, he oversees the Company's work on a wide range of areas around the world, including industry relations and partnerships, public policy and trust and safety, among others, and leads a global team of business, public affairs, government relations, licensing, and legal professionals. Mr. Gutierrez joined Spotify as General Counsel in 2016 after spending over 17 years at Microsoft Corporation, ultimately as General Counsel and Corporate Vice President for Legal Affairs. Throughout his career, he has been involved in a number of high-profile legal and regulatory matters and concluded numerous intellectual property deals, including licensing agreements with companies around the world. Mr. Gutierrez has played a leading role on technology and innovation policy issues, including competition policy, intellectual property policy and internet regulation. He holds a Master of Laws degree from Harvard Law School, which he attended as a Fulbright Scholar; a Juris Doctor degree *summa cum laude* from the University of Miami; a Bachelor of Laws degree from Universidad Católica Andrés Bello in Caracas, Venezuela; and a post-graduate diploma in corporate and commercial law from the same institution.

Alex Norström is our Chief Freemium Business Officer. As our Chief Freemium Business Officer, Mr. Norström is responsible for overseeing strategy, marketing, global partnerships, and product offerings for our subscription business. Mr. Norström was previously our Vice President of Growth and our Vice President of Subscription. Prior to joining Spotify in 2011, Mr. Norström was Chief New Business Officer at King.com Ltd. He was a member of the board of directors of Circle from 2016 through December 2019. Mr. Norström also has a private investment company, Fragrant Harbour Capital AB, based and registered in Stockholm, Sweden. Mr. Norström holds a Master of Science in Business & Economics with a Major in Finance from the Stockholm School of Economics.

Dawn Ostroff is our Chief Content & Advertising Business Officer. She is responsible for overseeing the Company's global content and distribution operations, including all original content and industry and creator relationships. Ms. Ostroff is also responsible for managing our global advertising sales business. She serves as a member of the board of directors of Activision Blizzard, Inc. where she serves on the Compensation Committee. Prior to joining Spotify, Ms. Ostroff served as President of Condé Nast Entertainment, a studio and distribution network with entertainment content across film, television, premium digital video, social, and virtual reality. She was previously President of Entertainment for The CW broadcast network, a joint venture of CBS and Warner Bros. that she helped launch in 2006, and before that, President of the UPN broadcast network. Ms. Ostroff holds a Bachelor of Science in Journalism from Florida International University.

Gustav Söderström is our Chief Research & Development Officer. He oversees the product, design, data, and engineering teams at Spotify and is responsible for our product strategy. Mr. Söderström is a startup seed investor and also has been an advisor to Tictail since 2013 and was formerly an advisor to 13th Lab (acquired by Facebook's Oculus). Before joining the Company in 2009, Mr. Söderström was director of product and business development for Yahoo! Mobile from 2006 to 2009. In 2003, Mr. Söderström founded Kenet Works, a company that developed community software for mobile phones and served as the company's Chief Executive Officer until it was acquired by Yahoo! in 2006. Mr. Söderström holds a Master of Science in Electrical Engineering from KTH Royal Institute of Technology.

Christopher (Woody) Marshall is a member of our board of directors. He has been a member of our board of directors since June 16, 2015, and his term will expire on the date of the general meeting of shareholders to be held to approve the annual accounts of 2020. In addition to his role on our board of directors, Mr. Marshall currently serves on the boards of directors of a number of private companies. Since 2008, he also has served as a general partner of Technology Crossover Ventures, a private equity firm. Prior to that, Mr. Marshall spent 12 years at Trident Capital, a venture capital firm. Mr. Marshall holds a Bachelor of Arts in Economics from Hamilton College and a Master of Business Administration from the Kellogg School of Management at Northwestern University.

Barry McCarthy is a member of our board of directors. He has been a member of our board of directors since January 8, 2020, and his term will expire on the date of the general meeting of shareholders to be held to approve the annual accounts of 2020. Mr. McCarthy previously served as our Chief Financial Officer from 2015 to January 2020. Prior to joining Spotify, Mr. McCarthy was a private investor and served as a member of the board of directors of several private companies, including Spotify from 2014 to 2015. He also has served as a member of the board of directors of Pandora from 2011 to 2013 (Chairman of the audit committee), Eventbrite from 2011 to 2015, and Chegg from 2010 to 2015 (Chairman of the audit committee). Since 2011, Mr. McCarthy also has served as an Executive Adviser to Technology Crossover Ventures. From 1999 to 2010,

Mr. McCarthy served as the Chief Financial Officer and Principal Accounting Officer of Netflix. Before joining Netflix, Mr. McCarthy served in various management positions in management consulting, investment banking, and media and entertainment. Mr. McCarthy holds a Bachelor of Arts in History from Williams College and a Master of Business Administration in Finance from the Wharton School at the University of Pennsylvania.

Shishir Mehrotra is a member of our board of directors. He has been a member of our board of directors since June 13, 2017, and his term will expire on the date of the general meeting of shareholders to be held to approve the annual accounts of 2020. Mr. Mehrotra previously served as our Strategic Advisor to the Chief Executive Officer from December 2015 to May 2017. Mr. Mehrotra is the CEO and Co-Founder of Coda, Inc. Mr. Mehrotra has previously served as a Vice President of Product and Engineering at Google and Director of Program Management at Microsoft. Mr. Mehrotra holds a Bachelor of Science in Computer Science and a Bachelor of Science in Mathematics from the Massachusetts Institute of Technology.

Heidi O'Neill is a member of our board of directors. She has been a member of our board of directors since December 5, 2017, and her term will expire on the date of the general meeting of shareholders to be held to approve the annual accounts of 2020. Ms. O'Neill previously served as a member of the board of directors of Skullcandy, where she also was the Chair of the compensation committee, and the Nike School Innovation Fund, of which she was a founding member. Ms. O'Neill also serves as the President of Consumer and Marketplace, a division of Nike, Inc.

Ted Sarandos is a member of our board of directors. He has been a member of our board of directors since September 13, 2016, and his term will expire on the date of the general meeting of shareholders to be held to approve the annual accounts of 2020. In addition to his role on our board of directors, Mr. Sarandos serves on the board of directors of Netflix, as well as the Film Advisory Board of Directors for Tribeca Film Festival, the board of directors of American Cinematheque, and the advisory board of Film Independent. Mr. Sarandos is also an American Film Institute trustee, an Executive Committee Member of the Academy of Television Arts & Sciences, a Henry Crown Fellow at the Aspen Institute, and serves on the board of directors of Exploring the Arts. He also serves as the co-CEO and Chief Content Officer of Netflix and has led content acquisition for Netflix since 2000.

Thomas Staggs is a member of our board of directors. He has been a member of our board of directors since June 13, 2017, and his term will expire on the date of the general meeting of shareholders to be held to approve the annual accounts of 2020. In addition to his role on our board of directors, Mr. Staggs serves as the Executive Chairman of Vejo, Inc, Executive Chairman of Bertsch Industries, GmbH, Chairperson of the Strategic Advisory Committee and director of Forest Road Acquisition Corp., Chairman of PureForm Global Inc., and a director of REQPay Inc. and Weta Digital Limited. He also serves on the board of advisors of the University of Minnesota Carlson School of Management and the board of trustees of the Center for Early Education. Mr. Staggs previously served in various roles at The Walt Disney Company, including as Chief Financial Officer, Chairman of Disney Parks and Resorts, Chief Operating Officer, and Special Advisor to the Chief Executive Officer. He also was previously a member of the board of directors at Euro Disney SCA from 2002 until 2015. Mr. Staggs holds a Bachelor of Science in Business from the University of Minnesota and a Master of Business Administration from the Stanford Graduate School of Business.

Cristina Stenbeck is a member of our board of directors. She has been a member of our board of directors since June 13, 2017, and her term will expire on the date of the general meeting of shareholders to be held to approve the annual accounts of 2020. In addition to her role on our board of directors, Ms. Stenbeck chairs the Supervisory Board of Zalando SE, the leading European starting point for online fashion listed on the MDAX in Germany. From 2003 through 2019, Ms. Stenbeck served on the board of directors as principal shareholder of Kinnevik AB, a Swedish listed investment management company. She was Deputy Chairman from 2003 to 2007 and Executive Chairman from 2007 to 2016.

Padmasree Warrior is a member of our board of directors. She has been a member of our board of directors since June 13, 2017, and her term will expire on the date of the general meeting of shareholders to be held to approve the annual accounts of 2020. In addition to her role on our board of directors, Ms. Warrior serves on the boards of directors of Microsoft. In addition, Ms. Warrior was a member of the board of directors of The Gap, Inc. from 2013 to 2016 and a member of the board of directors of Box, Inc. from 2014 to 2016. From 2008 to 2015 Ms. Warrior worked at Cisco, most recently as Chief Technology and Strategy Officer. She served as the Chief Executive Officer of NIO USA and Chief Development Officer of NIO Inc. from December 2015 to 2018. In 2019, she founded Fable Group, where she serves as President and Chief Executive Officer. She holds a Bachelor of Technology in Chemical Engineering from the Indian Institute of Technology and a Master of Science in Chemical Engineering from Cornell University.

Family Relationships

There are no family relationships between any of the directors. There are no family relationships between any director and any of the senior management of our Company.

Arrangements or Understandings

Christopher Marshall was elected as a director pursuant to a shareholder arrangement pursuant to his role as a general partner of TCMI, Inc., which manages the TCV funds. Such shareholder arrangement has since been terminated. None of our other senior management, directors, or key employees has any arrangement or understanding with our principal shareholder, customers, suppliers, or other persons pursuant to which such senior management, director, or key employee was selected as such.

B. Compensation

This section discusses the principles underlying the material components of our executive compensation program for a subset of our executive leadership team who would be our named executive officers, if we were a domestic issuer, and the factors relevant to an analysis of these policies and decisions. These "named executive officers" for 2020 are:

- Daniel Ek, who is our Founder and serves as our Chief Executive Officer ("CEO"), Chairman, and Director and is our principal executive officer;
- Barry McCarthy, who served as our Chief Financial Officer ("CFO") and our principal financial officer until he retired on January 15, 2020 and currently serves as a member of our board of directors;
- Paul Vogel, who serves as our CFO and our principal financial officer;
- Dawn Ostroff, who serves as our Chief Content & Advertising Business Officer;
- Gustav Söderström, who serves as our Chief Research & Development Officer; and
- Alex Norström, who serves as our Chief Freemium Business Officer.

Specifically, this section provides an overview of our executive compensation philosophy, the overall objectives of our executive compensation program, and each compensation component that we provide. In addition, we explain how and why the remuneration committee of our board of directors arrived at specific compensation policies and decisions involving our named executive officers during 2020.

Each of the key elements of our executive compensation program is discussed in more detail below. Our compensation programs are designed to be flexible and complementary and to collectively serve their principles and objectives.

Executive Compensation Philosophy and Objectives

We operate in the highly competitive and dynamic digital media industry as the world's most popular global audio streaming subscription service. This industry is characterized by rapidly changing market requirements and the emergence of new competitors. To succeed in this environment, we must continuously develop solutions that meet the needs of our rapidly growing user base in a rapidly changing environment, efficiently develop and refine new and existing products and services, and demonstrate a strong return on investment to our advertisers. To achieve these objectives, we need a highly talented and seasoned team of data scientists, engineers, product designers, product managers, and other business professionals.

We recognize that our future success depends on our continuing ability to attract, develop, motivate, and retain highly qualified and skilled employees, which is driven by our compensation, culture and reputation, and the strength of our brand. We strive to create an environment that is responsive to the needs of our employees, is open towards employee communication and continual performance feedback, encourages teamwork, and rewards commitment and performance. The principles and objectives of our compensation and benefits programs for our executive leadership team and other employees are to:

- attract, engage, and retain the best executives to work for us, with experience and managerial talent enabling us to be an employer of choice in highly competitive and dynamic industries;
- align compensation with our corporate strategies, business and financial objectives, and the long-term interests of our shareholders;

- motivate and reward executives whose knowledge, skills, and performance ensure our continued success; and
- ensure that our total compensation is fair, reasonable, and competitive.

We compete with many other companies in seeking to attract and retain experienced and skilled executives. To meet this challenge, we have embraced a compensation philosophy that offers our executive leadership team competitive compensation and benefits packages including equity grants, which are focused on long-term value creation, and that rewards our executive leadership team for achieving our financial and strategic objectives.

Roles of Our Board of Directors, Remuneration Committee, and Chief Executive Officer in Compensation Decisions

The initial compensation arrangements with our executive leadership team, including the named executive officers, have been determined in arms-length negotiations with each individual executive. Typically, our CEO has been responsible for negotiating these arrangements, except with respect to his own compensation, with the oversight and final approval of the members of our board of directors or the remuneration committee. The compensation arrangements have been influenced by a variety of factors, including, but not limited to:

- our financial condition and available resources;
- our need for that particular position to be filled;
- our board of directors' evaluation of the competitive market based on the third-party data provided by Compensia, Inc. ("Compensia"), a national compensation consulting firm, competitive pay practices for comparable positions at companies of comparable scale and in relevant business segments, as further described below, and the experience of the members of the remuneration committee with other companies;
- the length of service of an individual; and
- the compensation levels of other members of the executive leadership team, each as of the time of the applicable compensation decision.

Following the establishment of the initial compensation arrangements, our CEO, board of directors, and remuneration committee have been responsible for overseeing our executive compensation program, as well as determining and approving the ongoing compensation arrangements for our CEO and other members of the executive leadership team, including the other named executive officers. Typically, our CEO reviews the performance of the other members of the executive leadership team, including the other named executive officers, and based on this review, along with the factors described above, make recommendations to the remuneration committee with respect to the total compensation, including each individual component of compensation, of these individuals for the coming year. There is no predetermined time of year for these reviews, although they are generally performed on an annual basis coinciding with our Company-wide employee compensation review in March. Further, the remuneration committee reviews the performance of our CEO, and based on this review and the factors described above, determines his total compensation for the coming year.

The current compensation levels of our executive leadership team, including the named executive officers, primarily reflect the varying roles and responsibilities of each individual.

Engagement of Compensation Consultant

The remuneration committee has engaged the services of Compensia to provide executive compensation advisory services. The remuneration committee directed Compensia to develop a peer group of comparable companies in our sector and prepare a competitive market analysis of our executive compensation program to assist it in determining the appropriate level of overall compensation, as well as assess each separate component of compensation, with the goal of understanding the competitiveness of the compensation we offer to our executive leadership team. In 2019, the remuneration committee approved the compensation peer group (the "Peer Group") for fiscal year 2020. The Peer Group for 2020 consisted of the following companies:

Activision Blizzard	Autodesk	Booking Holdings	Discovery
eBay	Electronic Arts	Expedia Group	IAC/InterActiveCorp
Intuit	Live Nation Entertainment	MercadoLibre	Netflix
PayPal Holdings	Sirius XM Holdings	Snap	Take-Two Interactive
Trip.com Group	Twitter	Zalando	

The remuneration committee bases its executive compensation decisions, at least in part, by reference to the compensation of the executives holding comparable positions at this group of comparable peer companies, as it may be adjusted from time to time. In 2019, Compensia provided the remuneration committee with total cash compensation data and total compensation data (including cash compensation and equity compensation) at various percentiles within the Peer Group. The remuneration committee considered this data in determining the compensation levels of our named executive officers, but we did not benchmark our executive compensation to any pre-determined target percentile of market. The remuneration committee sought to compensate our named executive officers at a level that would allow us to successfully recruit and retain the best possible talent for our executive leadership team. Overall, Compensia's analysis of our Peer Group indicated that the target total cash compensation for our named executive officers was approximately the 25th percentile of our Peer Group. Our total compensation for our named executive officers other than our CEO (who, as we note below, did not receive any cash or equity compensation in 2020), including cash and equity compensation, was between the 50th and 75th percentile of our Peer Group. As discussed below, we rely heavily on our equity awards to incentivize our employees, including each of our named executive officers.

Compensation Philosophy

We design the principal components of our executive compensation program to fulfill one or more of the principles and objectives described above. Compensation of our named executive officers consists of the following elements:

- base salary;
- equity incentive compensation;
- certain severance benefits;
- retirement savings plans; and
- health and welfare benefits and certain limited perquisites and other personal benefits.

We offer cash compensation in the form of base salaries that we believe appropriately reward our executive leadership team members for their individual contributions to our business. We have opted not to offer annual cash bonuses to our executive leadership team members, as we believe they do not incentivize the long-term growth of the Company. Instead, we incentivize our executive leadership team members heavily through share-based compensation, which we believe fosters the long-term growth of the Company.

We have emphasized the use of equity to incentivize our executive leadership team to focus on the growth of our overall enterprise value and, correspondingly, the creation of value for our shareholders. As a result of this compensation practice, we have tied a greater percentage of each executive leadership team member's total compensation to shareholders returns and kept cash compensation at modest levels, while providing the opportunity to be well-rewarded through equity if we perform well over time.

Except as described below, we have not adopted any policy or guidelines for allocating compensation between currently-paid and long-term compensation, between cash and non-cash compensation, or among different forms of non-cash compensation.

Each of the primary elements of our executive compensation program is discussed in more detail below. We believe that, as a part of our overall executive compensation policy, each individual element serves our objectives described above.

Executive Compensation Program Components

The following describes the primary components of our executive compensation program for each of our named executive officers, the rationale for that component, and how compensation amounts are determined.

Base Salary

Generally, each named executive officer's initial base salaries were established through arms-length negotiation at the time the individual was hired, taking into account his or her qualifications, experience, and prior salary level. Thereafter, the base salaries of our executive leadership team members, including the named executive officers, are reviewed periodically by our remuneration committee, and adjustments are made as deemed appropriate. In January 2020, in connection with Mr. Vogel's promotion to Chief Financial Officer, Mr. Vogel received an increase in his annual base salary from $400,000 to $600,000.

As of July 1, 2017, our CEO does not receive a base salary; however, the remuneration committee may, from time to time, provide Mr. Ek with a discretionary bonus as it determines to be appropriate. Mr. Ek did not receive a bonus for 2018, 2019, or 2020.

As of the end of fiscal year 2020, our named executive officers who were employed by us were entitled to the following annual base salaries:

Named Executive Officer		Annual Base Salary
Daniel Ek[1][2]	$	0
Paul Vogel	$	600,000
Dawn Ostroff	$	1,000,000
Gustav Söderström[2]	$	364,520
Alex Norström[2]	$	379,101

(1) As of July 1, 2017, Mr. Ek does not receive a base salary.
(2) Messrs. Ek, Söderström, and Norström are each paid in Swedish Krona. Such amounts are based on the exchange rate of SEK 8.23 per dollar as of December 31, 2020 as published by Reuters.

Long-Term Incentives

Each of our named executive officers has been granted equity awards in the Company, which allow them to share in the future appreciation of the Company, subject to certain vesting conditions, as described in more detail below. These equity awards are designed to foster a long-term commitment to us by our named executive officers, provide a balance to the salary component of our compensation program, align a portion of our executives' compensation to the interests of our shareholders, promote retention, and reinforce our pay-for-performance structure (as discussed in more detail below).

Long-term incentive awards are provided upon hire as well as during employment at the Company's discretion.

In 2019, we established a new incentive mix program, which provides our named executive officers as well as all other permanent employees with maximum flexibility and individual autonomy, by allowing our employees to have the ability to choose their own composition of long-term incentive awards. Employees are informed of their intended aggregate dollar amount of long-term incentive compensation, and they can allocate such dollar amount among at-the-money stock options, out-of-the-money stock options with a closing price equal to 150% of the closing price per ordinary share on the grant date, RSUs, or cash. Employees can choose to have one or two types of equity awards and/or cash and can mix their programs in portions of 25%, 50%, and 75%. The amount of any cash award chosen will be 90% of the dollar amount the employee allocates to cash. The number of RSUs provided is equal to the dollar amount the employee allocates to RSUs divided by the closing price per ordinary share on the grant date. The number of at-the-money options provided is equal to four times the dollar amount the employee allocates to such stock options divided by such closing price. The number of out-of-the-money stock options provided is equal to eight times the dollar amount the employee allocates to stock options divided by such closing price. Each type of long-term incentive award vests on the same schedule: 3/48ths of the equity award and/or cash payment vests on the third calendar month following the date of grant, and thereafter 1/48th of the equity award and/or cash payment vests on the first day of each calendar month. For further information on our equity award programs please see "—Stock Options," "—Restricted Stock Units" and "—Cash Program" below.

In 2020, each of our named executive officers, other than Mr. Ek, participated in the incentive mix program. The following table shows the dollar amount of incentive compensation allocated to each named executive officer, as well as the allocations chosen by each such individual:

Named Executive Officer	Aggregate Long-Term Incentive Award Dollar Value ($)	2020 At-the-Money Stock Option Allocation	2020 Out-of-the-Money Stock Option Allocation	2020 RSU Allocation	2020 Cash Allocation ($)
Barry McCarthy[1]	340,000	—	15,033	—	—
Paul Vogel	3,500,000	51,050	—	12,763	—
Dawn Ostroff	9,000,000	65,636	—	49,227	—
Gustav Söderström	6,800,000	198,366	—	—	—
Alex Norström	6,000,000	87,515	—	21,879	—

(1) Mr. McCarthy retired on January 15, 2020. Following his retirement, he continued to serve on our board of directors. The amount shown in the table relates to Mr. McCarthy participation in the incentive mix program as a director.

Long-Term Incentive Award Decisions

Each year our remuneration committee reviews and recommends an equity program to our board of directors for approval in order to incentivize our employees, including our named executive officers, and directors. Our remuneration committee, in consultation with our CEO, determines the aggregate dollar value of the long-term incentive compensation to be awarded to each executive leadership team member. In making these decisions, the remuneration committee takes into consideration the Company's financial results and market conditions, as well as the factors described above.

Retirement Savings and Other Benefits

Our retirement programs are designed to comply with local laws and regulations. For our employees who reside in Sweden, including Messrs. Ek, Söderström, and Norström, we participate in an occupational pension plan. Pursuant to such plan we pay a premium of 4.5% of each such employee's monthly base salary up to an annual income ceiling and 30% of monthly base salary on amounts above such annual income ceiling. Employees also may contribute additional amounts through a salary exchange program pursuant to which eligible employees are given the opportunity to enhance their pension savings by choosing to exchange a portion of their base salary for additional pension contributions. Certain legal limitations apply to the amount of contributions that may be made to the occupational pension plan.

For our employees in the United States who satisfy certain eligibility requirements, including Messrs. McCarthy (prior to his retirement) and Vogel, and Ms. Ostroff, we have established a 401(k) retirement savings plan. Under the 401(k) plan, eligible employees may elect to reduce their current compensation by up to the prescribed annual limit and contribute these amounts to the 401(k) plan. The Company matches up to 50% of the employee's contributions up to 6% of their annual salary. Employees vest in the employer contributions ratably over one year.

The Company does not maintain any defined benefit plans for any of its named executive officers.

Employee Benefits and Perquisites

Additional benefits received by our Swedish employees, including Messrs. Ek, Söderström, and Norström, include private healthcare, accident insurance, life and long-term disability insurance, travel insurance, and parental leave. Additional benefits received by our U.S. employees, including Messrs. McCarthy (prior to his retirement) and Vogel, and Ms. Ostroff, include medical, dental, and vision benefits, medical, and dependent care flexible spending accounts, short-term and long-term disability insurance, basic life insurance coverage, and parental leave. These benefits are provided to our named executive officers on the same general terms as they are provided to all of our full-time employees in the applicable countries.

We design our employee benefits programs to be affordable and competitive in relation to the market, as well as compliant with applicable laws and practices. We adjust our employee benefits programs as needed based upon regular monitoring of applicable laws and practices in the competitive market.

We do not view perquisites or other personal benefits as a significant component of our executive compensation program. We generally provide relocation assistance to all of our employees, when applicable. In October 2020, we entered into a short-term lease for a residential property in Los Angeles, California for use by Ms. Ostroff and her family. The property provides Ms. Ostroff with meeting and working space in Los Angeles during a time that our corporate offices are closed as a

result of the COVID-19 pandemic. Ms. Ostroff reimburses us for any personal use of the property based on the value of overnight stays at a comparable hotel room. The unreimbursed costs to the Company of the lease are reported as other compensation to Ms. Ostroff in the "2020 Summary Compensation Table" below. In addition, the personal safety of our employees, including our NEOs, is of the highest importance to us and in 2020 we paid for personal security services for certain NEOs pursuant to the Company's personal security program for senior management. Although we consider these personal security services to be appropriate and necessary for the reasons described above, the costs related to such services are reported as other compensation to our NEOs in the "2020 Summary Compensation Table" below. In the future, we may provide other perquisites or other personal benefits in limited circumstances, such as where we believe it is appropriate to assist an individual executive officer in the performance of his or her duties, to make our executive leadership team members more efficient and effective, and for recruitment, motivation, or retention purposes. All future practices with respect to perquisites or other personal benefits for our named executive officers will be approved and subject to periodic review by the remuneration committee. We do not expect these perquisites to be a significant component of our compensation program.

Severance

Each of our named executive officers is entitled to severance upon certain qualifying terminations. For further information on such amounts please see "—Employment Agreements" below.

Employment Agreements

We have, or one of our subsidiaries has, entered into employment agreements with Messrs. Ek, McCarthy (prior to his retirement), Vogel, Norström, and Söderström, and Ms. Ostroff. We currently do not have employment agreements or other service contracts with any members of our board of directors, except for Mr. Ek.

In 2011, Mr. Ek entered into a new employment agreement that replaced his prior agreement. The employment agreement provides for an indefinite term that automatically expires upon Mr. Ek's retirement at age 65. The agreement provides for a fixed monthly salary, although the board of directors determined that, commencing July 1, 2017, Mr. Ek would no longer receive an annual salary. Mr. Ek is also entitled to an annual cash bonus payment, at the sole discretion of the board of directors. The Ek Agreement also provides for a six-month notice period prior to termination, though we may terminate the agreement with immediate effect if Mr. Ek has grossly neglected his obligations or otherwise materially breached the contract. In the event of termination of employment by us (other than due to gross neglect), in addition to pay during the notice period, Mr. Ek also will be entitled to a severance payment equal to six times his monthly salary, less any income from future employment, payable in monthly installments following termination (using Mr. Ek's current base salary, he would be entitled to no payments under this arrangement).

Mr. Ek's employment agreement contains post-termination non-competition covenants that we could choose to enforce for 12 months following any type of termination of employment, except termination by us due to any reason other than breach of contract by Mr. Ek. In consideration for the non-competition covenant, we will pay Mr. Ek, in monthly installments during his restricted period, 12 times his monthly salary, less any income from future employment, in an amount up to 60% of Mr. Ek's monthly salary (using Mr. Ek's current base salary, he would be entitled to no payments under this arrangement). Such payment will not be made during any period Mr. Ek is otherwise receiving severance pay from us or if Mr. Ek's employment ceases as a result of retirement or termination by us due to Mr. Ek's breach of contract. If we decide not to enforce the non-competition covenant, the corresponding payment obligation would also cease. Mr. Ek's employment agreement also includes employee and customer non-solicitation clauses that will apply for 12-months post-termination and that do not require us to pay any additional consideration.

In October 2016, Mr. McCarthy entered into a new employment agreement that replaced his prior agreement (the "McCarthy Agreement"). The agreement provided for an indefinite employment period. The agreement also provided for a base salary, participation in our benefit plans, and total target compensation of $5,000,000. The employment agreement provided that we could terminate Mr. McCarthy's employment without "Cause" (as defined in the agreement) upon three months' notice. In addition, upon a termination without Cause, Mr. McCarthy would have been entitled to a severance amount equal to his base salary for six months and subsidized health benefits for six months. If Mr. McCarthy's employment were terminated within 12 months after a change in control of the Company, or if he were required to perform duties that are materially inconsistent with those normally performed by him or is otherwise constructively dismissed following the change in control, he would have been entitled to receive a lump sum severance payment of 12 months' salary and subsidized health benefits. Mr. McCarthy was also subject to a nine-month post-termination non-competition covenant (with such period commencing on the last day of the notice period) and a two-year post-termination non-solicitation covenant.

Mr. McCarthy retired effective as of January 15, 2020. We and Mr. McCarthy did not enter into a separation agreement or any similar arrangement in connection with his resignation.

In 2017, each of Messrs. Norström, and Söderström entered into revised employment agreements (the "2017 Agreements") that provide substantially similar terms to the terms described above for the McCarthy Agreement, except that the 2017 Agreements do not provide for a specified total target compensation and their non-competition periods commence on the first day of their respective notice periods rather than the last day.

Effective July 2018, we entered into an employment agreement with Ms. Ostroff (the "Ostroff Agreement"). The Ostroff Agreement provides for substantially similar terms to the terms described above for the 2017 Agreements, except that the Ostroff Agreement provides for a signing bonus of $2,000,000, payable in two equal installments on the date Ms. Ostroff's first base salary payment is made and on the 12-month anniversary of such date, respectively. Payment of each installment is subject to Ms. Ostroff's continued employment through the 12-month period following the applicable installment payment date. If Ms. Ostroff's employment is terminated during either such 12-month period, she will be required to repay the amount received on the applicable installment payment date, prorated for the number of fully completed months of employment during such 12-month period.

In 2018, Mr. Vogel entered into a new employment agreement that replaced his prior agreement (the "Vogel Agreement"). The Vogel Agreement provides for an indefinite employment period. The agreement also provides for a base salary and participation in our benefit plans. The Vogel Agreement provides that we can terminate Mr. Vogel without Cause (as defined in the Vogel Agreement) upon three months' notice. In addition, upon a termination with Cause, Mr. Vogel is entitled to a severance amount equal to his base salary for three months and subsidized health benefits for three months. In addition, if we terminate Mr. Vogel at any time during the three month notice period, Mr. Vogel will also be entitled to an amount equal to his base salary through the end of the notice period. Mr. Vogel will not be entitled to the above severance payments in the event of certain asset sales where Mr. Vogel continues his employment in the same or greater capacity following the transaction or Mr. Vogel is offered continued employment in connection with the transaction and the Vogel Agreement is assumed by the surviving entity following the transaction. Mr. Vogel is also subject to six-month post-termination non-compete covenant (with such period commencing on the last day of the notice period) and a two-year post-termination non-solicitation covenant. In January 2020, in connection with Mr. Vogel's promotion to Chief Financial Officer, Mr. Vogel received an increase in his annual base salary from $400,000 to $600,000. The remaining terms and conditions of the Vogel Agreement remain in effect following such promotion.

For further information on the post-termination treatment of our equity awards, please see "—Stock Options" and "—Restricted Stock Units" below.

C. Board Practices

Board of Directors Structure

Our board of directors currently consists of ten directors and is composed of Class A and Class B directors. Our articles of association provide that the board of directors must be composed of at least three members. Each director holds office for the term decided by the general meeting of the shareholders or until his or her successor has been appointed. For more information on the date of expiration of each director's term and the length of time each director has served, see "Item 6.A. Directors and Senior Management." Our directors may be removed at any time, with or without cause, by a resolution of the shareholders' meeting. See "Item 10.B. Memorandum and Articles of Association."

Remuneration Committee

Our board of directors has established a remuneration committee that consists of Christopher Marshall, Martin Lorentzon, and Shishir Mehrotra. Christopher Marshall is the chair of our remuneration committee. Our remuneration committee has the following responsibilities, among others:

- reviewing and making recommendations to our board of directors related to our incentive-compensation plans and equity-based plans;
- establishing and reviewing the overall compensation philosophy of the Company;
- reviewing and approving total compensation for our chief executive officer and other executive officers;
- reviewing and making recommendations regarding the compensation to be paid to our non-employee directors;

- selecting and retaining a compensation consultant; and
- such other matters that are specifically delegated to the remuneration committee by our board of directors from time to time.

Audit Committee

Our board of directors has established an audit committee that consists of Thomas Staggs, Christopher Marshall, and Padmasree Warrior. Mr. Staggs is the chair of our audit committee. All audit committee members satisfy the "independence" requirements set forth under the rules of the NYSE and in Rule 10A-3 under the Exchange Act. Our audit committee has the following responsibilities, among others:

- appointing and replacing our independent registered public accounting firm, subject to shareholder approval;
- retaining, compensating, evaluating, and overseeing the work of our independent registered public accounting firm;
- reviewing with our independent registered public accounting firm any difficulties or material audit issues and the Company's response to any management letters provided by the independent registered public accounting firm;
- discussing the annual audited financial statements and quarterly financial statements with management and our independent registered public accounting firm;
- reviewing and evaluating the Company's enterprise risk management, including the Company's data protection and cybersecurity programs; and
- such other matters that are specifically delegated to our audit committee by our board of directors from time to time.

D. Employees

In 2020, 2019, and 2018, we had 5,584, 4,405, and 3,651 full-time employees on average, respectively. The following table describes our average number of employees by department per fiscal year:

	December 31,			% Change	
	2020	2019	2018	2020 vs. 2019	2019 vs. 2018
Content Production and Customer Service	580	371	236	56 %	57 %
Sales and Marketing	1,436	1,192	1,016	20 %	17 %
Research and Development	2,624	2,094	1,846	25 %	13 %
General and Administrative	944	748	553	26 %	35 %

The following table describes our average number of employees by geographic location:

	December 31,		
	2020	2019	2018
United States	2,746	2,121	1,708
Sweden	1,688	1,437	1,280
United Kingdom	463	353	273

Additionally, for the years ended December 31, 2020, 2019, and 2018, we had an average of approximately 687, 494, and 390 employees, respectively, in the aggregate in Argentina, Australia, Belgium, Brazil, Canada, Colombia, Denmark, Finland, France, Germany, Hong Kong, India, Italy, Japan, Mexico, Netherlands, Norway, Poland, Russia, Singapore, South Korea, Spain, Taiwan, Turkey, and United Arab Emirates. From time to time, we have engaged temporary employees to fill open positions. We are not a signatory to any labor union collective bargaining agreement. As of December 31, 2020, 65 employees of The Ringer, 56 employees of Parcast, and 48 employees of Gimlet, wholly-owned indirect subsidiaries of the Company, were represented by the Writer's Guild of America-East labor union. Collective bargaining has commenced, but an agreement has not been reached.

E. Share Ownership

The following table provides information regarding share ownership by our officers and directors as of December 31, 2020.

Name of Beneficial Owner	Number of Shares Owned	Approximate Percentage of Outstanding Ordinary Shares	Number of Shares Underlying Options	Option Exercise Price ($)	Option Expiration Date	Restricted Stock Units	Warrants	Subscription Price ($)
Daniel Ek[1]	31,973,691	16.8 %	—	$ —	—	—	800,000	$ 190.09
Martin Lorentzon[2]	21,164,094	11.1 %	18,602	$ 219.33	6/28/2024	2,051	—	$ —
	—	— %	3,758	$ 180.93	5/29/2025	—	—	$ —
	—	— %	7,517	$ 271.40	5/29/2025	—	—	$ —
Paul Vogel	4,710	*	1,520	$ 50.70	3/31/2022	13,351	—	$ —
	—	— %	28,520	$ 123.13	3/31/2023	—	—	$ —
	—	— %	21,191	$ 138.00	3/1/2024	—	—	$ —
	—	— %	51,050	$ 137.12	3/1/2025	—	—	$ —
Katarina Berg	19,594	*	7,040	$ 50.70	3/31/2022	18,807	—	$ —
	—	— %	43,600	$ 123.13	3/31/2023	—	—	$ —
	—	— %	32,609	$ 138.00	3/1/2024	—	—	$ —
	—	— %	23,337	$ 137.12	3/1/2025	—	—	$ —
Horacio Gutierrez	8,605	*	63,135	$ 142.55	12/1/2024	48,881	—	$ —
	—	— %	2,038	$ 138.00	3/1/2024	—	—	$ —
	—	— %	600	$ 78.25	3/31/2022	—	—	$ —
Alex Norström	5,743	*	195,600	$ 50.70	3/31/2022	17,776	—	$ —
	—	— %	130,800	$ 123.13	3/31/2023	—	—	$ —
	—	— %	153,623	$ 138.00	3/1/2024	—	—	$ —
	—	— %	87,515	$ 137.12	3/1/2025	—	—	$ —
Dawn Ostroff	6,958	*	24,804	$ 138.00	3/1/2024	56,200	—	$ —
	—	— %	58,798	$ 137.12	3/1/2025	—	—	$ —
	—	— %	58,513	$ 180.12	3/31/2023	—	—	$ —
Gustav Söderström	5,920	*	155,280	$ 50.70	3/31/2022	—	—	$ —
	—	— %	145,360	$ 123.13	3/31/2023	—	—	$ —
	—	— %	171,014	$ 138.00	3/1/2024	—	—	$ —
	—	— %	198,366	$ 137.12	3/1/2025	—	—	$ —
Christopher Marshall[3]	49,867	*	4,651	$ 146.22	6/28/2024	2,051	—	$ —
	—	— %	9,301	$ 219.33	6/28/2024	—	—	$ —
	—	— %	7,517	$ 180.93	5/29/2025	—	—	$ —
Barry McCarthy[4]	440,722	*	15,033	$ 271.40	5/29/2025	—	—	$ —
Shishir Mehrotra	68,074	*	13,952	$ 219.33	6/28/2024	2,956	—	$ —
	—	— %	11,275	$ 271.40	5/29/2025	—	—	$ —
Heidi O'Neill	3,808	*	2,325	$ 146.22	6/28/2024	4,918	—	$ —
Ted Sarandos	10,792	*	4,651	$ 146.22	6/28/2024	2,991	—	$ —
	—	— %	9,301	$ 219.33	6/28/2024	—	—	$ —
	—	— %	3,758	$ 180.93	5/29/2025	—	—	$ —
Thomas Staggs[5]	35,585	*	7,386	$ 146.22	6/28/2024	2,573	—	$ —
	—	— %	7,959	$ 180.93	5/29/2025	—	—	$ —
Cristina Stenbeck	44,368	*	4,651	$ 219.33	6/28/2024	4,768	—	$ —
	—	— %	3,758	$ 271.40	5/29/2025	—	—	$ —
Padmasree Warrior	4,332	*	4,651	$ 219.33	6/28/2024	2,051	—	$ —
	—	— %	3,758	$ 180.93	5/29/2025	—	—	$ —

* Represents beneficial ownership of less than 1%.

(1) Includes 15,341,722 ordinary shares held by D.G.E. Investments Limited ("D.G.E. Investments"). Mr. Ek is the sole shareholder of D.G.E. Holding Limited ("D.G.E. Holding"), which is the sole shareholder of D.G.E. Investments. Also includes 4,276,200 ordinary shares held by Tencent Music Entertainment Hong Kong Limited ("TME Hong Kong"), 9,076,240 ordinary shares held by Image Frame Investment (HK) Limted ("Image Frame"), 3,227,920 ordinary shares held by Tencent Mobility Limited, and 51,609 ordinary shares held by Distribution Pool Limited. Mr. Ek exercises voting power over the ordinary shares held by TME Hong Kong, Image Frame, Tencent Mobility Limited, and Distribution Pool Limited through his indirect ownership of D.G.E. Investments, which holds an irrevocable proxy with regard to these ordinary shares. As such, Mr. Ek may be deemed to share beneficial ownership of the ordinary shares held by TME Hong Kong, Image Frame, Tencent

Mobility Limited, and Distribution Pool Limited. Additionally, each of D.G.E. Holding and Mr. Ek may be deemed to share beneficial ownership of the ordinary shares held by D.G.E. Investments. The business address of D.G.E. Holding is 1 Alexandrou Panagouli, Office 2B, Novel Tower, 6057 Larnaca, Cyprus.

(2) Includes 21,159,762 ordinary shares held by Rosello Company Limited ("Rosello"). Mr. Lorentzon is the sole shareholder of Amaltea S.à r.l. ("Amaltea"), which is the sole shareholder of Rosello. As such, each of Amaltea and Mr. Lorentzon may be deemed to share beneficial ownership of the ordinary shares held by Rosello. The business address of Rosello is 22 Stasikratous Street, Office 001, 1065 Nicosia, Cyprus.

(3) Includes (i) 32,992 ordinary shares held by Marshall Carroll 2000 Trust; (ii) 440 ordinary shares held by Marshall Partners; (iii) 16,435 shares held by Mr. Marshall for the benefit of TCV VII Management, L.L.C. ("TCV VII Management") and TCV VIII Management, L.L.C. ("TCV VIII Management"); (iv) 21,469 non-qualified stock options held by Mr. Marshall for the benefit of TCV VII Management and TCV VIII Management; and (v) 2,051 ordinary shares issuable upon vesting of RSUs held by Mr. Marshall for the benefit of TCV VII Management and TCV VIII Management. Mr. Marshall is a trustee of the Marshall Carroll 2000 Trust and a general partner of Marshall Partners. Mr. Marshall disclaims beneficial ownership of such shares except to the extent of his pecuniary interest therein. Mr. Marshall and the other members of TCV VII Management and TCV VIII Management (collectively, the "Management Members") may be deemed to have the shared power to dispose or direct the disposition of the 16,435 ordinary shares, the 21,469 non-qualified stock options, and the 2,051 ordinary shares issuable upon vesting of the RSUs held by Mr. Marshall. The Management Members disclaim beneficial ownership of the ordinary shares and the ordinary shares issuable upon vesting of non-qualified stock options and RSUs, except to the extent of their respective pecuniary interest therein.

(4) Includes 167,855 ordinary shares held by Rivers Cross Trust, an entity wholly owned by Mr. McCarthy. The business address of Rivers Cross Trust is 3875 Woodside Rd, Woodside, CA 94062.

(5) Includes 31,040 ordinary shares held by the Staggs Trust, a revocable inter-vivos trust established by Mr. Staggs and his spouse. The business address of the Staggs Trust is 433 N. Camden Drive, Suite 54, Beverly Hills, CA 90210.

Stock Options

As noted above, we have granted stock options to our employees, including as part of the incentive mix program implemented in 2019. Each stock option represents the right to purchase one of our ordinary shares. Each year through 2020, we adopted a new employee stock option program for a one-year term; however, in 2019, we adopted two stock option programs, an interim 2019 plan (the "Interim 2019 Plan") and the 2020 plan (the "2020 Plan"). In 2020, we adopted a new employee stock option program that takes effect in April 2021 for a five-year term (the "2021 Plan"). Pursuant to the recent stock option programs, each participant is granted a stock option at a specified exercise price. Since January 1, 2016, the exercise prices have been set at fair market value. Of each grant made prior to 2019 and each grant made pursuant to the Interim 2019 Plan, 3/16ths of the total number of options granted vests on the first of any of March 1, June 1, September 1, or December 1 falling more than three months from the date of grant (except for grants made prior to 2017 in Australia for which 5/16 vests on the first of March 1, June 1, September 1, or December 1 after 12 months from the date of grant), and thereafter 1/16 vests on each March 1, June 1, September 1, and December 1 thereafter, subject to continued employment. As noted above, of each grant made pursuant to the 2020 Plan and 2021 Plan as part of the incentive mix program, 3/48ths of the total number of options granted vested on the third calendar month following the date of grant, and thereafter 1/48th of the total number of options granted vests on the first day of each calendar month thereafter, subject to continued employment. The options granted prior to 2019 and granted pursuant to the Interim 2019 Plan expire on March 31 of the fifth year following the date of grant. The options granted under the 2020 Plan and the 2021 Plan expire on the fifth anniversary of the date of grant. Initially, vested options were only exercisable annually during a 30-day exercise window, for a period of time immediately following the optionee's termination and upon the expiration of the term of the option. In 2016, we amended our stock option program to provide that vested options could be exercised during each March, June, September, and December prior to the expiration of the term of the option. We later further amended our stock option program in 2017 to provide that vested options may be exercised at any time prior to the expiration of the option term. For our employees in certain countries, upon the exercise of a stock option, the Company is required to pay a social security contribution in an amount equal to the spread value of the option multiplied by the applicable tax rate.

Upon the termination of an optionee's employment for any reason, all unvested options held by the optionee will generally be immediately forfeited. However, for certain employees, including the named executive officers, upon termination of an optionee's employment (i) by the Company for any reason other than Cause or (ii) by the optionee due to the Company's material breach of the optionee's employment agreement, a portion of unvested options will immediately vest. The portion of unvested options that will accelerate and vest ranges from six to twelve months' worth of unvested options, depending on the optionee. If the optionee resigns; if we terminate the optionee's employment other than as a result of death, disability or "Cause" (as defined in the applicable option plan); or if the optionee retires, the optionee's vested options will remain exercisable for 90 days following such termination. If the optionee's termination of employment occurs due to death or disability, the vested options will remain exercisable for 194 days following termination. In either case, the option will no longer be exercisable after the expiration date. Upon termination for Cause, vested options will immediately be forfeited. We also may cancel an optionee's options upon the optionee's commission of a material breach of the terms and conditions governing the options.

The board of directors may provide for a new exercise period upon a change in control. If the board of directors sets a new exercise period, 50% of each holder's unvested options will accelerate and vest. Following such acceleration, the board of directors may choose to allow the unvested options to continue to vest or lapse. For the plans prior to 2018 and the Interim 2019

Plan, if the board allows the unvested options to continue vesting, 1/8th of the unvested options will vest on the first cliff vesting date as described above, and 1/32nd of the remaining options will vest each quarter thereafter. For the 2020 Plan and 2021 Plan, if the board allows the unvested options to continue vesting, 3/96th of the unvested options will vest after the first cliff vesting date as described above, and 1/96th of the remaining options will vest on each subsequent regularly scheduled vesting occasion. If we or our successor terminates an optionee's employment without Cause within six months following a transaction constituting a change in control, any unvested stock options held by the optionee will vest as of such termination. In addition, for certain employees, including the named executive officers, if within six months following a change in control, such employee (i) resigns because he or she is required to perform duties that are materially inconsistent with the ones normally performed by someone in such position or (ii) otherwise experiences a constructive termination, any unvested stock options held by the employee will vest as of such resignation. The plans provide for other potential adjustments to the stock options in the event of corporate transactions.

We also maintain an option program for former employees of The Echo Nest Corporation who are not members of the executive leadership team, which options we assumed in connection with the acquisition of The Echo Nest Corporation.

Restricted Stock Units

As noted above, we have granted RSUs to our employees, including as part of the incentive mix program implemented in 2019. Each year through 2020, we adopted a new employee RSU program for a one-year term; however, in 2020, we adopted a new employee restricted stock unit program for a five-year term that will take effect in 2021. Each RSU represents the right to receive one of our ordinary shares. With respect to RSUs granted prior to 2018, one-fifth of each grant of RSUs time-vests on each September 1, commencing on the September 1 falling more than three months from the date of grant and subject to the holder's continued employment with us. In addition to time-vesting, one of the following events or dates also has to occur in order for such RSUs granted prior to 2018 to fully vest: (i) the six-month anniversary of an initial public offering, (ii) a change in control, and (iii) September 1 of the third year following the date of grant, subject to the holder's continued employment through such date. If one of such events or dates occurs prior to final time-vesting of an award of RSUs, then the RSUs will continue to be subject to time-vesting following such event or date, and will fully vest upon the final time-vesting date. RSUs granted in 2018 fully vest on each of the first five anniversaries of the date of grant, subject to the holder's continued employment with us. As described above, for RSUs granted in 2019 and 2020 as part of the incentive mix program, 3/48ths of the total number of RSUs granted vested on the third calendar month following the date of grant, and thereafter 1/48th of the total number of RSUs granted vests on the first day of each calendar month thereafter, subject to continued employment. For certain employees, including the named executive officers, upon termination of an employee's employment (i) by the Company for any reason other than Cause or (ii) by the employee due to the Company's material breach of the employee's employment agreement, a portion of the individual's unvested RSUs will immediately vest. The portion of unvested RSUs that will accelerate and vest will be equal to the number of such RSUs that would have otherwise vested between six and 12 months following the termination, depending on the employee. In addition, for certain employees, including the named executive officers, if within six months following a change in control, the individual (i) resigns because he or she is required to perform duties that are materially inconsistent with the ones normally performed by someone in such position or (ii) otherwise experiences a constructive termination, all of the individual's outstanding unvested RSUs will accelerate and vest.

For our employees in certain countries, upon vesting of an RSU, the Company is required to pay a social security contribution in an amount equal to the profit an employee realizes upon vesting multiplied by the applicable tax rate. The RSUs are settled in ordinary shares on or as soon as reasonably practicable (but no later than 30 days) following full vesting.

The plans provide for other potential adjustments to the RSUs in the event of corporate transactions. If the holder commits a material breach of the terms and conditions governing RSUs, we may cancel the unvested RSUs. All unvested RSUs will be forfeited upon any termination of employment.

On certain occasions we also grant RSUs to individuals who become employees through acquisitions, with varying vesting schedules.

Cash Program

As noted above, we also offer cash retention awards as part of our incentive mix program to all permanent employees. Pursuant to the cash alternative of the incentive mix program, the named executive officers who choose to include cash in their incentive mix composition will receive a fixed cash payment upon each vesting date. As noted above, for the cash awards granted in 2020, 3/48ths of the cash payment vested on the third calendar month following the date of grant, and thereafter 1/48th of the cash payment granted vests on the first day of each calendar month thereafter, subject to continued employment.

Other Contingently Issuable Shares

In connection with acquisitions in 2019 and 2020, we issued equity instruments to certain employees of the target. Of each such grant of equity instruments, one-fourth will vest on each anniversary of the closing of such transaction until fully vested, subject, in each case, to the employee's continued employment through such vesting date. The agreement provides for potential adjustments to the equity instrument in the event of corporate transactions.

Warrants

On October 17, 2016, Mr. Ek purchased, through D.G.E. Investments, an entity indirectly wholly owned by him, 3,200,000 non-compensatory warrants in the Company, pursuant to a subscription agreement. Each warrant was purchased for $5.76. The terms and conditions for the warrants provide that D.G.E. Investments may purchase the ordinary shares underlying the warrants for $50.61 per share at any time prior to October 17, 2019. On October 4, 2019, the Company issued 1,600,000 ordinary shares and 16,000,000 beneficiary certificates to Mr. Ek, through D.G.E. Investments, upon the exercise of 1,600,000 warrants that were granted on October 17, 2016, for cash of €74 million. On October 17, 2019, the Company issued 905,285 ordinary shares and 9,052,850 beneficiary certificates to Mr. Ek, through D.G.E. Investments, upon the effective net settlement of the remaining 1,600,000 warrants that were granted on October 17, 2016.

On July 13, 2017, Mr. Ek purchased, through D.G.E. Investments, 1,600,000 non-compensatory warrants in the Company, pursuant to a subscription agreement. Each warrant was purchased for $6.23, the then-current fair market value per share. The terms and conditions for the warrants provide that D.G.E. Investments may purchase the ordinary shares underlying the warrants for $89.73 per share at any time prior to July 13, 2020. On July 13, 2020, the Company issued 1,084,043 ordinary shares and 10,840,430 beneficiary certificates to Mr. Ek, through D.G.E. Investments, upon the effective net settlement of 1,600,000 warrants that were granted on July 13, 2017.

On July 1, 2019, Mr. Ek purchased, through D.G.E. Investments, 800,000 non-compensatory warrants in the Company, pursuant to a subscription agreement. Each warrant was purchased for $20.61, the then-current fair market value per share. The terms and conditions for the warrants provide that D.G.E. Investments may purchase the ordinary shares underlying the warrants for $190.09 per share at any time prior to July 1, 2022.

The warrants are subject to adjustment upon certain corporate events.

Compensation Tables

2020 Summary Compensation Table

The following table sets forth information concerning the compensation of our named executive officers for the years ended December 31, 2020, 2019 and 2018.

Name and Principal Position	Year	Salary ($)	Bonus ($)	Option Awards ($)[1]	Stock Awards ($)[2]	All Other Compensation ($)	Total ($)
Daniel Ek (CEO)	2020	— (3)	— (3)	—	—	490,334 (4)	490,334
	2019	— (3)	— (3)	—	—	336,462	336,462
	2018	— (3)	— (3)	—	—	2,220	2,220
Barry McCarthy (Former CFO)[5]	2020	23,333	—	403,600	—	—	426,933
	2019	560,000	—	6,682,200	—	8,400	7,250,600
	2018	560,000	—	5,000,341	—	2,220	5,562,561
Paul Vogel (CFO)[6]	2020	595,386	—	1,663,708	1,750,063	8,550	4,017,707
Dawn Ostroff (Chief Content & Advertising Business Officer)	2020	1,000,000	—	2,139,061	6,750,006	87,250 (7)	9,976,317
	2019	1,000,000	1,000,000	1,500,679	3,974,952	8,400	7,484,031
	2018	420,513 (8)	1,000,000	6,499,650	—	10,470	7,930,633
Gustav Söderström (Chief Research & Development Officer)	2020	364,520 (10)	—	6,464,706	—	95,889 (9)	6,925,115
	2019	320,514 (10)	—	6,682,200	—	113,494	7,116,208
	2018	332,963 (10)	—	5,000,341	—	90,949	5,424,253
Alex Norström (Chief Freemium Business Officer)	2020	379,101 (10)	—	2,852,095	3,000,048	102,290 (9)	6,333,534
	2019	333,335 (10)	—	6,002,664	—	91,379	6,427,378
	2018	346,282 (10)	—	4,499,406	—	96,889	4,942,577

(1) Amounts reflect the grant-date Black-Scholes value of the stock options granted to our named executive officers, computed in accordance with IFRS 2, rather than the amounts paid to or realized by the named individual. We provide information regarding the assumptions used to calculate the value of all option awards made to executive officers in "Operating and Financial Review and Prospects" and in Note 19 of the consolidated financial statements included elsewhere in this 20-F.

(2) Amounts reflect the grant-date fair value of the RSUs granted, computed in accordance with IFRS 2, rather than the amounts paid to or realized by the named individual. We provide information regarding the assumptions used to calculate the value of all stock awards made to executive officers in "Operating and Financial Review and Prospects" and in Note 19 of the consolidated financial statements included elsewhere in this 20-F.

(3) As of July 1, 2017, we ceased paying Mr. Ek a base salary; however, the remuneration committee may, from time to time, provide Mr. Ek with a discretionary bonus as it determines to be appropriate. Mr. Ek did not receive a bonus for fiscal years 2018, 2019, or 2020.

(4) For 2020, amount reflects $490,334 for home security services. These 2020 dollar amounts are based on a currency translation of SEK 8.23 per dollar as published by Reuters on December 31, 2020.

(5) Mr. McCarthy retired on January 15, 2020. He continues to serve on our board of directors, which he joined on January 8, 2020. The amounts shown for Mr. McCarthy include compensation earned or paid to him as an employee and as a non-employee director during 2020.

(6) Mr. Vogel's service as the Company's Chief Financial Officer commenced January 15, 2020. Amount reflects the actual base salary earned by Mr. Vogel during fiscal year 2020.

(7) Amount reflects $8,550 for Company matching contributions to the 401(k) plan and $78,700 for use of a corporate apartment.

(8) Ms. Ostroff's service as the Company's Chief Content & Advertising Business Officer commenced July 31, 2018. Amount reflects the actual base salary paid to Ms. Ostroff during fiscal year 2018.

(9) Amount reflects contributions to the Swedish retirement plan.

(10) Messrs. Söderström and Norström were each paid in Swedish Krona in 2018, 2019, and 2020. The 2018 dollar amounts are based on a currency translation of SEK 9.01 per dollar as published by Reuters on December 31, 2018, and the 2019 dollar amounts are based on a currency translation of SEK 9.36 per dollar as published by Reuters on December 31, 2019. The 2020 dollar amounts are based on a currency translation of SEK 8.23 per dollar as published by Reuters on December 31, 2020. The amounts include vacation pay received by Messrs. Söderström and Norström pursuant to Swedish standards.

Grants of Plan-Based Awards in 2020

The following table sets forth information regarding grants of plan-based awards made to our named executive officers during the year ended December 31, 2020:

Name	Grant Date	All Other Stock Awards: Number of Shares of Stocks or Units (# shares)(1)	All Other Option Awards: Number of Securities Underlying Options (# shares)[1]	Exercise or Base Price of Option Awards Per Ordinary Share ($)	Grant Date Fair Value of Stock and Option Awards ($)[2]
Daniel Ek	—	—	—	—	—
Barry McCarthy	05/29/2020	—	15,033	271.40	403,600
Paul Vogel	03/01/2020	—	51,050	137.12	1,663,708
	03/01/2020	12,763	—	—	1,750,063
Dawn Ostroff	03/01/2020	—	65,636	137.12	2,139,061
	03/01/2020	49,227	—	—	6,750,006
Gustav Söderström	03/01/2020	—	198,366	137.12	6,464,706
Alex Norström	03/01/2020	—	87,515	137.12	2,852,095
	03/01/2020	21,879	—	—	3,000,048

(1) All stock awards were issued under the Company's Terms and Conditions Governing Employee Restricted Stock Units 2020/2025 in Spotify Technology S.A. and all option awards were issued under the Company's Terms and Conditions Governing Employee Stock Options 2020/2025 in Spotify Technology S.A.

(2) Amounts of option awards reflect the grant-date Black-Scholes value of the stock options granted during 2020 computed in accordance IFRS 2, rather than the amounts paid to or realized by the named individual. Amounts of stock awards reflect the grant-date fair value of the RSUs granted, computed in accordance with IFRS 2, rather than the amounts paid to or realized by the named individual. We provide information regarding the assumptions used to calculate the value of all option awards made to executive officers in "Operating and Financial Review and Prospects" and in Note 19 of the consolidated financial statements included elsewhere in this 20-F.

Outstanding Equity Awards at 2020 Fiscal Year-End

The following table summarizes the number of ordinary shares underlying outstanding equity incentive plan awards for each named executive officer as of December 31, 2020:

		Option Awards					Ordinary Share Awards		
Name	Grant Date	Number of Securities Underlying Unexercised Options (#) Exercisable	Number Of Securities Underlying Unexercised Options (#) Unexercisable		Option Exercise Price ($)	Option Expiration Date	Number Of Ordinary Shares That Have Not Vested (#)		Market Value of Ordinary Shares That Have Not Vested ($)[4]
Daniel Ek	—	—	—		—	—	—		—
Barry McCarthy	05/29/2020	—	15,033	(3)	271.40	05/29/2025	—		—
Paul Vogel	03/01/2017	1,520	—		50.70	03/01/2022	—		—
	03/01/2018	19,000	9,520	(1)	123.13	03/01/2023	—		—
	03/01/2019	9,271	11,920	(1)	138.00	03/01/2024	—		—
	03/01/2019	—	—		—	—	2,981	(5)	938,001
	03/01/2020	9,572	41,478	(2)	137.12	03/01/2025	—		—
	03/01/2020	—	—		—	—	10,370	(6)	3,263,024
Dawn Ostroff	08/01/2018	16,718	41,795	(1)	180.12	03/31/2023	—		—
	03/01/2019	3,200	21,604	(2)	138.00	03/01/2024	—		—
	03/01/2019	—	—		—		16,203	(5)	5,098,436
	03/01/2020	5,469	53,329	(2)	137.12	03/01/2025	—		—
	03/01/2020	—	—		—		39,997	(6)	12,585,456
Gustav Söderström	03/01/2017	155,280	—		50.70	03/31/2022	—		—
	03/01/2018	109,000	36,360	(1)	123.13	03/31/2023	—		—
	03/01/2019	74,818	96,196	(2)	138.00	03/01/2024	—		—
	03/01/2020	37,194	161,172	(2)	137.12	03/01/2025	—		
Alex Norström	03/01/2017	195,600	—		50.70	03/31/2022	—		—
	03/01/2018	98,080	32,720	(1)	123.13	03/31/2023	—		—
	03/01/2019	67,210	86,413	(2)	138.00	03/01/2024	—		—
	03/01/2020	16,409	71,106	(2)	137.12	03/01/2025	—		—
	03/01/2020	—	—		—	—	17,776	(6)	5,593,396

(1) Of each option grant, 3/16ths of the total number of options granted vested on the first day of any of March 1, June 1, September 1, or December 1 falling more than three months from the grant date and thereafter 1/16th vests on each March 1, June 1, September 1, and December 1 thereafter, subject to continued employment.

(2) Of each option grant, 3/48ths of the total number of options granted vested on the third calendar month following the date of grant, and thereafter 1/48th of the total number of options granted vests on the first day of each calendar month thereafter, subject to continued employment.

(3) Of each option grant, 1/4th of the total number of options granted vest on the first February 15th following the date of grant, and thereafter 1/4th of the total number of options granted vests on each February 15th thereafter, subject to continued service on the board of directors.

(4) Values were calculated based on a $314.66 closing price of our ordinary shares, as reported on the NYSE on December 31, 2020.

(5) Of each RSU grant, 3/48ths of such RSU grant vested on June 1, 2019 and thereafter 1/48th vests on the first day of each calendar month thereafter, subject to continued employment.

(6) Of each RSU grant, 3/48ths of such RSU grant vested on June 1, 2020 and thereafter 1/48th vests on the first day of each calendar month thereafter, subject to continued employment.

2020 Option Exercises and Stock Vested

The following table summarizes stock option exercises by and vesting of stock applicable to our named executive officers during the year ended December 31, 2020:

Name	Option Awards: Number of Ordinary Shares Acquired on Exercise (#)	Option Awards: Value Realized on Exercise ($)[1]	Stock Awards: Number of Ordinary Shares Acquired on Vesting (#)		Stock Awards: Value Realized on Vesting ($)[2]
Daniel Ek	65,480	10,063,761	—		—
Barry McCarthy	857,467	77,715,169	—		—
Paul Vogel	35,520	5,248,989	3,717	(3)	838,253
Dawn Ostroff	95,672	7,904,134	16,430	(4)	3,662,520
Gustav Söderström	98,800	19,222,840	—		—
Alex Norström	30,000	6,510,300	4,103	(5)	971,750

(1) Represents the difference between the market value per share of the shares acquired on exercise, as determined based on the closing price of our ordinary shares as reported on the NYSE on the date of exercise, and the exercise price of the option.
(2) Value realized is calculated based on the closing price of our ordinary shares as reported on the NYSE on the date of vesting.
(3) Includes 1,823 RSUs which the Company retained as part of a net share settlement to satisfy the applicable tax withholding liability of Mr. Vogel related to the vesting of such shares.
(4) Includes 7,858 RSUs which the Company retained as part of a net share settlement to satisfy the applicable tax withholding liability of Ms. Ostroff related to the vesting of such shares.
(5) Includes 2,295 RSUs which the Company retained as part of a net share settlement to satisfy the applicable tax withholding liability of Mr. Norström related to the vesting of such shares.

Non-Employee Director Compensation

Similarly to our executive compensation decisions, the remuneration committee bases its decisions regarding non-employee director compensation, at least in part, by reference to the compensation of the non-employee directors in the Peer Group (as described above in "—Engagement of Compensation Consultant"). Our non-employee directors are also eligible to participate in our new incentive mix program, which provides our non-employee directors with maximum flexibility and individual autonomy, by allowing our non-employee directors to have the ability to choose their own composition of long-term incentive awards each year. For further information on our incentive mix program, please see "—Long Term Incentives" above. Each such grant generally vests ratably over four years. The non-employee director RSUs will fully vest upon the occurrence of a change in control. Like employee RSUs, the RSUs are settled within 30 days following vesting, subject to payment by the holder of the nominal value per ordinary share, and unvested RSUs are forfeited on termination of service. The plans provide for certain potential adjustments in the event of corporate transactions.

In 2020, each of our non-employee directors participated in the incentive mix program. The following table shows the dollar amount of incentive compensation allocated to each named executive officer, as well as the allocations chosen by each such individual:

Name	Aggregate Long-Term Incentive Award Dollar Value ($)	2020 At-the-Money Stock Option Allocation	2020 Out-of-the-Money Stock Option Allocation	2020 RSU Allocation	2020 Cash Allocation ($)
Martin Lorentzon	340,000	3,758	7,517	—	—
Christopher Marshall	340,000	7,517	—	—	—
Shishir Mehrotra	340,000	—	11,275	470	—
Heidi O'Neill	340,000	—	—	1,879	—
Ted Sarandos	340,000	3,758	—	940	—
Thomas Staggs	360,000	7,959	—	—	—
Cristina Stenbeck	340,000	—	3,758	1,409	—
Padmasree Warrior	340,000	3,758	—	—	153,000

2020 Director Compensation

The following table sets forth information concerning the compensation of our non-employee directors during the year ended December 31, 2020:

Name(1)	Fees Earned or Paid in Cash ($)	Stock Awards ($)(2)	Stock Options ($)(3)	Total ($)(4)
Martin Lorentzon	—	—	379,649	379,649
Christopher Marshall	—	—	355,725	355,725
Shishir Mehrotra	—	85,037	302,706	387,743
Heidi O'Neill	—	339,967	—	339,967
Ted Sarandos	—	170,074	177,836	347,910
Thomas Staggs	—	—	376,642	376,642
Cristina Stenbeck	—	254,930	100,891	355,821
Padmasree Warrior	153,000	—	177,836	330,836

(1) Mr. Ek serves on our board of directors. His compensation is fully reflected in the Summary Compensation Table.
(2) Amounts reflect the aggregate grant-date fair value of the RSUs computed in accordance with IFRS 2, rather than the amounts paid to or realized by the named individual.
(3) Amounts reflect the aggregate grant-date Black-Scholes value of the stock options granted during 2020 computed in accordance IFRS 2, rather than the amounts paid to or realized by the named individual. We provide information regarding the assumptions used to calculate the value of all option awards made to executive officers in "Operating and Financial Review and Prospects" and in Note 19 of the consolidated financial statements included elsewhere in this 20-F.
(4) The table below shows the aggregate numbers of stock awards and stock options held as of December 31, 2020 by each non-employee director who was serving as of December 31, 2020.

Name	Restricted Stock Units Outstanding at Fiscal Year End	Stock Options Outstanding at Fiscal Year End
Martin Lorentzon	2,051	29,877
Christopher Marshall	2,051	21,469
Shishir Mehrotra	2,956	25,227
Heidi O'Neill	4,918	2,325
Ted Sarandos	2,991	17,710
Thomas Staggs	2,573	15,345
Cristina Stenbeck	4,768	8,409
Padmasree Warrior	2,051	8,409

Item 7. Major Shareholders and Related Party Transactions.

A. Major Shareholders

The following table sets forth, as of December 31, 2020 (except where noted), the number of our ordinary shares and beneficiary certificates held by each person we know to be the beneficial owner of more than 5% of our ordinary shares and beneficiary certificates, respectively, and the percentage of total votes held by each such person. The voting rights of our major shareholders are the same as the voting rights of holders of our ordinary shares and beneficiary certificates who are not our major shareholders. As of December 31, 2020, the registrar and transfer agent for our Company reported that 137,073,270 of our ordinary shares were held by 292 record holders in the United States and none of our beneficiary certificates were held by record holders in the United States. Our beneficiary certificates carry no economic rights and are issued to provide the holders of such beneficiary certificates additional voting rights; however, each beneficiary certificate entitles its holder to one vote.

In accordance with the rules of the SEC, beneficial ownership includes voting or investment power with respect to securities and includes the ordinary shares issuable pursuant to options, warrants, and RSUs that are exercisable or settled within 60 days of December 31, 2020. Ordinary shares issuable pursuant to options, warrants, and RSUs are deemed outstanding for computing the percentage of the class beneficially owned by the person holding such options, warrants, and RSUs but are not deemed outstanding for computing the percentage of the class beneficially owned by any other person. The percentage of beneficial ownership for the following table is based on 190,212,847 total ordinary shares and 365,014,840 total beneficiary certificates outstanding as of December 31, 2020.

Name	Ordinary Shares		Beneficiary Certificates[7]		Percent of Total Voting Power
	Number	Percent	Number	Percent	
Daniel Ek[1][6]	32,773,691	17.2 %	153,417,220	— %	33.5 %
Martin Lorentzon[2]	21,176,660	11.1 %	211,597,620	— %	41.9 %
Baillie Gifford & Co[3]	20,795,970	10.9 %	—	—	3.8 %
Morgan Stanley[4]	13,385,493	7.0 %	—	—	2.4 %
T. Rowe Price[5]	11,478,209	6.0 %	—	—	2.1 %
Tencent[6]	16,631,969	8.7 %	—	—	* [8]

(1) Includes 15,341,722 ordinary shares that are held by D.G.E. Investments. Also includes 800,000 ordinary shares issuable pursuant to warrants that are held of record by D.G.E. Investments that are exercisable or settled within 60 days of December 31, 2020. Mr. Ek is the sole shareholder of D.G.E. Holding, which is the sole shareholder of D.G.E. Investments. Mr. Ek exercises voting power over the ordinary shares held of record by TME Hong Kong, Image Frame, Tencent Mobility Limited, and Distribution Pool Limited through his indirect ownership of D.G.E. Investments, which holds an irrevocable proxy with regard to these ordinary shares. As such, Mr. Ek may be deemed to share beneficial ownership of the ordinary shares held of record by TME Hong Kong, Image Frame, Tencent Mobility Limited, and Distribution Pool Limited. Additionally, each of D.G.E. Holding and Mr. Ek may be deemed to share beneficial ownership of the ordinary shares held of record by D.G.E. Investments. The business address of D.G.E. Holding and D.G.E. Investments is 1 Alexandrou Panagouli, Office 2B, Novel Tower, 6057 Larnaca, Cyprus. The business address of Mr. Ek is c/o Spotify AB Regeringsgatan 19, 111 53 Stockholm, Sweden.

(2) Includes 21,159,762 ordinary shares held by Rosello. Also includes 12,121 ordinary shares issuable pursuant to options and 445 ordinary shares issuable pursuant to RSUs that are held of record by Mr. Lorentzon that, in each case, are exercisable or settled within 60 days of December 31, 2020. Mr. Lorentzon is the sole shareholder of Amaltea, which is the sole shareholder of Rosello. As such, each of Amaltea and Mr. Lorentzon may be deemed to share beneficial ownership of the shares held of record by Rosello. The business address of Rosello is 22 Stasikratous Street, Office 001, 1065 Nicosia, Cyprus.

(3) Based on information reported on Schedule 13G, as filed by Baillie Gifford & Co (Scottish partnership) (“Baillie Gifford”) with the SEC on January 8, 2021, Baillie Gifford has the following powers with respect to our ordinary shares: (i) sole voting power: 15,299,983; (ii) shared voting power: 0; (c) sole dispositive power: 20,795,970; and (iv) shared dispositive power: 0. The business address for Baillie Gifford is Carlton Square, 1 Greenside Row, Edinburgh EH1 3AN, Scotland, UK.

(4) Based on information reported on Schedule 13G, as filed jointly by Morgan Stanley and Morgan Stanley Investment Management Inc. (collectively, “Morgan Stanley”) with the SEC on February 14, 2020, Morgan Stanley has the following powers with respect to our ordinary shares: (i) sole voting power: 0; (ii) shared voting power: 11,341,616; (c) sole dispositive power: 0; and (iv) shared dispositive power: 13,385,493. The business address for Morgan Stanley is 1585 Broadway, New York, NY 10036.

(5) Based on information reported on Schedule 13G, as filed by T. Rowe Price Associates, Inc. (“T. Rowe Price ”) with the SEC on February 14, 2020, T. Rowe Price has the following powers with respect to our ordinary shares: (i) sole dispositive power: 4,656,535; (ii) shared voting power: 0; (iii) sole dispositive power: 11,478,209; and (iv) shared dispositive power: 0. The business address of T. Rowe Price is 100 E. Pratt St, Baltimore, MD 21202.

(6) Includes 4,276,200 ordinary shares held of record by TME Hong Kong, 9,076,240 ordinary shares held of record by Image Frame, 3,227,920 ordinary shares held of record by Tencent Mobility Limited, and 51,609 ordinary shares held by Distribution Pool Limited received in connection with a distribution in kind of the Company’s ordinary shares by a fund in which an affiliate of Distribution Pool Limited is a limited partner. Tencent is also the majority equity holder of TME, which is the sole shareholder of TME Hong Kong. Each of Image Frame, Tencent Mobility Limited, and Distribution Pool Limited is wholly owned by Tencent Holdings Limited ("Tencent"). As such, Tencent may be deemed to share beneficial ownership of the ordinary shares held of record by each of TME Hong Kong, Image Frame, Tencent Mobility Limited, and Distribution Pool Limited. The address for Tencent is Level 29, Three Pacific Place, 1 Queen’s Road East, Wanchai, Hong Kong.

(7) Our shareholders have authorized the issuance of up to 1,400,000,000 beneficiary certificates to shareholders of the Company without reserving to our existing shareholders a preemptive right to subscribe for the beneficiary certificates issued in the future. Pursuant to our articles of association, our beneficiary certificates may be issued at a ratio of between one and 20 beneficiary certificates per ordinary share as determined by our board of directors or its delegate at the time of issuance. We have issued ten beneficiary certificates per ordinary share held of record to entities beneficially owned by our founders, Daniel Ek and Martin Lorentzon, for a total of 365,014,840 beneficiary certificates outstanding as of December 31, 2020. The beneficiary certificates carry no economic rights and are issued to provide the holders of such certificates additional voting rights. Each beneficiary certificate entitles its holder to one vote. The beneficiary certificates, subject to certain exceptions, are non-transferable and shall be automatically canceled for no consideration in the case of sale or transfer of the ordinary share to which they are linked. See “Item 10.B. Memorandum and Articles of Association.”

(8) Mr. Ek exercises voting power over the ordinary shares held of record by TME Hong Kong, Image Frame, Tencent Mobility Limited, and Distribution Pool Limited through his indirect ownership of D.G.E. Investments, which holds an irrevocable proxy with regard to these ordinary shares.

Change in Control Arrangements

None applicable.

B. Related Party Transactions

Luxembourg law prescribes certain procedures for related party transactions with directors, and our articles of association mandate that directors with a direct or indirect personal interest in any transaction that conflicts with the Company’s interest shall make that interest known and recorded in the board minutes and shall not participate in discussing or voting on

such transaction. In addition, our articles of association provide that any such conflict of interest must be reported to the next general meeting of shareholders of the Company prior to any resolution taking place at such meeting.

Please see "Item 6. Directors, Senior Management and Employees—E. Share Ownership—Warrants" and Note 26 to the consolidated financial statements for a description of the transactions relating to the warrants purchased by Messrs. Ek and Lorentzon.

Related Party Transaction Policy

Our board of directors has adopted the Related Party Transaction Policy, which requires that any material transaction between us and any related party, including our directors and senior management as well as their family members, be reviewed and approved by the audit committee to ensure that the transaction is on terms comparable to those that could be obtained in arm's length dealings with an unrelated third party.

C. Interests of Experts and Counsel

Not applicable

Item 8. Financial Information

A. Consolidated Statements and Other Financial Information

Refer to "Item 18. Financial Statements" for our consolidated financial statements and report of our independent registered public accounting firm included elsewhere in this document.

Export Sales

Refer to "Item 4.B. Business Overview" for a discussion of our sales and distribution channels.

Legal or arbitration proceedings

Refer to Notes 23 and 25 of the consolidated financial statements included elsewhere in this report for information regarding provisions made for legal proceedings.

Dividend Policy

We have never declared or paid any cash dividends on our share capital, and we do not expect to pay dividends or other distributions on our ordinary shares in the foreseeable future. There are no legislative or other legal provisions currently in force in Luxembourg or arising under our articles of association that restrict the payment of dividends or distributions to holders of our ordinary shares not resident in Luxembourg, except for regulations restricting the remittance of dividends, distributions, and other payments in compliance with United Nations and EU sanctions. We currently intend to retain any future earnings for working capital and general corporate purposes. Under Luxembourg law, the amount and payment of dividends or other distributions is determined by a simple majority vote at a general shareholders' meeting based on the recommendation of our board of directors, except in certain limited circumstances. Pursuant to our articles of association, the board of directors has the power to pay interim dividends or make other distributions in accordance with applicable Luxembourg law. Distributions may be lawfully declared and paid if our net profits and/or distributable reserves are sufficient under Luxembourg law. All of our ordinary shares rank *pari passu* with respect to the payment of dividends or other distributions unless the right to dividends or other distributions has been suspended in accordance with our articles of association or applicable law. Holders of beneficiary certificates are not entitled to receive any dividend payments with respect to such beneficiary certificates.

Under Luxembourg law, at least 5% of our net profits per year must be allocated to the creation of a legal reserve until such reserve has reached an amount equal to 10% of our issued share capital. The allocation to the legal reserve becomes compulsory again when the legal reserve no longer represents 10% of our issued share capital. The legal reserve is not available for distribution.

We are a holding company and have no material assets other than our indirect ownership of ordinary shares in our operating subsidiaries. Our ability to generate income and pay dividends is dependent on the ability of our subsidiaries to declare and pay dividends or lend funds to us.

The registrar and transfer agent for Spotify's ordinary shares is Computershare Trust Company, N.A.

B. Significant Changes

There have been no significant changes since the approval date of the financial statements included elsewhere in this annual report. Please see Note 28 of the consolidated financial statements elsewhere in this annual report for details of events after the reporting period.

Item 9. The Offer and Listing

A. Offer and Listing Details

Our ordinary shares are listed on the NYSE under the symbol "SPOT."

B. Plan of Distribution

Not applicable.

C. Markets

Our ordinary shares are listed and traded on the NYSE.

D. Selling Shareholders

Not applicable.

E. Dilution

Not applicable.

F. Expenses of the Issue

Not applicable.

Item 10. Additional Information

A. Share Capital

Not applicable.

B. Memorandum and Articles of Association

We are registered with the Luxembourg Trade and Companies' Register under number B.123.052. Our corporate purpose, as stated in Article 3 of our articles of association, is the acquisition and holding of direct or indirect interests in Luxembourg and/or in foreign undertakings, as well as the administration, development, and management of our holdings. We may provide any financial assistance to subsidiaries, affiliated companies, or other companies forming part of the group of which we belong, including, but not limited to, the providing of loans and the granting of guarantees or securities in any kind or form. We also may use our funds to invest in real estate, intellectual property rights, or any other movable or immovable assets in any kind or form. We may borrow in any kind or form and privately issue bonds or notes. In general, we may carry out any commercial, industrial, or financial operation that we may deem useful in the accomplishment and development of our purposes.

See Exhibit 2.1 to this Annual Report on Form 20-F for more information.

C. Material Contracts

The following is a summary of each material agreement, other than material agreements entered into in the ordinary course of business, to which we are or have been a party for the two years immediately preceding the date of this report:

- Subscription Agreement by and among TME, TME Hong Kong, Spotify Technology S.A., and Spotify AB, dated as of December 8, 2017, pursuant to which TME issued shares of TME to Spotify, and Spotify issued ordinary shares of Spotify to an affiliate of TME.
- Investor Agreement by and among Spotify Technology S.A., TME, TME Hong Kong, Tencent, Image Frame, and with respect to certain sections only, D.G.E. Investments and Rosello, dated as of December 15, 2017, pursuant to which an affiliate of Tencent purchased ordinary shares of Spotify through a secondary purchase. Additionally, pursuant to this Investor Agreement, D.G.E. Investments, an entity indirectly wholly owned by Mr. Ek, shall have the sole and exclusive right to vote, in its sole and absolute discretion, any of our securities beneficially owned by the Tencent Investors or their controlled affiliates on all proposals, resolutions, and other matters for which a vote, consent, or other approval (including by written consent) of the holders of our securities is sought or upon which such holders are otherwise entitled to vote or consent.

D. Exchange Controls

We are not aware of any governmental laws, decrees, regulations or other legislation in Luxembourg that restrict the export or import of capital, including the availability of cash and cash equivalents for use by our affiliated companies, or that affect the remittance of dividends, interest or other payments to non-resident holders of our securities, except for regulations restricting the remittance of dividends, distributions, and other payments in compliance with United Nations and EU sanctions.

E. Taxation

Luxembourg Tax Considerations

The following is an overview of certain material Luxembourg tax consequences of purchasing, owning, and disposing of the ordinary shares issued by us. It does not purport to be a complete analysis of all possible tax situations that may be relevant to a decision to purchase, own, or deposit our ordinary shares. It is included herein solely for preliminary information purposes and is not intended to be, nor should it construed to be, legal or tax advice. Prospective purchasers of our ordinary shares should consult their own tax advisers as to the applicable tax consequences of the ownership of our ordinary shares, based on their particular circumstances. The following description of Luxembourg tax law is based upon Luxembourg law and regulations as in effect and as interpreted by the Luxembourg tax authorities as of the date of this annual report and is subject to any amendments in law (or in interpretation) later introduced, whether or not on a retroactive basis. Please be aware that the residence concept used under the respective headings below applies for Luxembourg tax assessment purposes only. Any reference in this section to a tax, duty, levy impost or other charge or withholding of a similar nature refers to Luxembourg tax laws and/or concepts only. Also, please note that a reference to Luxembourg income tax encompasses corporate income tax (*impôt sur le revenu des collectivités*), municipal business tax (*impôt commercial communal*), a solidarity surcharge (*contribution au fonds pour l'emploi*), and personal income tax (*impôt sur le revenu des personnes physiques*) generally. Corporate taxpayers may further be subject to net worth tax (*impôt sur la fortune*), as well as other duties, levies or taxes. Corporate income tax, municipal business tax, as well as the solidarity surcharge invariably applies to most corporate taxpayers resident of Luxembourg for tax purposes. Individual taxpayers are generally subject to personal income tax and to the solidarity surcharge. Under certain circumstances, where an individual taxpayer acts in the course of the management of a professional or business undertaking, municipal business tax may apply as well.

Taxation of the Company

Income Tax

As the Company is a fully-taxable Luxembourg company, its net taxable profit is as a rule subject to corporate income tax ("CIT") and municipal business tax ("MBT") at ordinary rates in Luxembourg.

The taxable profit as determined for CIT purposes is applicable, with minor adjustments, for MBT purposes. CIT is levied at an effective maximum rate of 18.19% as from 2019 (inclusive of the 7% surcharge for the employment fund). MBT is levied at a variable rate according to the municipality in which the Company is located (6.75% in the City of Luxembourg in 2019). The maximum aggregate CIT and MBT rate consequently amounts to 24.94% as from 2019 for companies located in the City of Luxembourg.

Dividends and other payments derived from ordinary shares by the Company are subject to income taxes, unless the conditions of the participation exemption regime, as described below, are satisfied. Where the conditions of the participation exemption are not satisfied, a tax credit is generally granted for withholding taxes levied at source within the limit of the tax

payable in Luxembourg on such income, whereby any excess withholding tax is not refundable but deductible as an operating expense from the tax base.

Under the participation exemption regime (subject to the relevant anti-abuse rules), dividends derived from ordinary shares may be exempt from income tax if (i) the distributing company is a qualified subsidiary ("Qualified Subsidiary"), and (ii) at the time the dividend is put at the company's disposal, the company has held or commits itself to hold for an uninterrupted period of at least 12 months' shares representing a direct participation in the share capital of the Qualified Subsidiary (a) of at least 10%, or (b) of an acquisition price of at least €1.2 million (or an equivalent amount in another currency). A Qualified Subsidiary means (i) a Luxembourg resident fully-taxable company limited by share capital (*société de capitaux*), (ii) a company covered by Article 2 of the Council Directive 2011/96/EU of November 30, 2011 (the "EU Parent-Subsidiary Directive"), or (iii) a non-resident company limited by share capital (*société de capitaux*) liable to a tax corresponding to Luxembourg CIT.

Liquidation proceeds are assimilated to a received dividend and may be exempt under the same conditions. If the conditions of the participation exemption regime are not met, dividends derived by the Company from Qualified Subsidiaries may be exempt for 50% of their gross amount.

Capital gains realized by the Company on shares are subject to CIT and MBT at ordinary rates, unless the conditions of the participation exemption regime, as described below, are satisfied. Under the participation exemption regime, capital gains realized on shares of a Qualified Subsidiary may be exempt from CIT and MBT at the level of the Company if at the time the capital gain is realized, the Company has held or commits itself to hold for an uninterrupted period of at least 12 months shares representing a direct participation in the share capital of the Qualified Subsidiary (i) of at least 10%, or (ii) of an acquisition price of at least €6 million (or an equivalent amount in another currency). Taxable gains are defined as the difference between the price for which shares have been disposed of and the lower of their cost or book value.

Withholding Tax

Dividends paid by us to the holders of our ordinary shares are as a rule subject to a 15% withholding tax in Luxembourg, unless a reduced withholding tax rate applies pursuant to an applicable double tax treaty or an exemption pursuant to the application of the Luxembourg domestic withholding tax exemption, and, to the extent withholding tax applies to Luxembourg entities, we are responsible for withholding amounts corresponding to such taxation at its source.

If the Company and a U.S. relevant holder are eligible for the benefits of the tax treaty concluded between the United States and Luxembourg (the "Treaty"), the rate of withholding on distributions shall not exceed 15%, or 5% if the U.S. relevant holder is a qualified resident company as defined in Article 24 of the Treaty that owns at least 10% of our Company's voting stock.

An exemption may apply under the withholding tax exemption (subject to the relevant anti-abuse rules) if cumulatively (i) the holder of our ordinary shares is an eligible parent ("Eligible Parent"), and (ii) at the time the income is made available, the holder of our ordinary shares has held or commits itself to hold for an uninterrupted period of at least 12 months a direct participation of at least 10% of our share capital or a direct participation of an acquisition price of at least €1.2 million (or an equivalent amount in another currency). Holding a participation through an entity treated as tax transparent from a Luxembourg income tax perspective is deemed to be a direct participation in proportion to the net assets held in this entity. An Eligible Parent includes (i) a company covered by Article 2 of the EU Parent-Subsidiary Directive or a Luxembourg permanent establishment thereof, (ii) a fully-taxable company limited by share capital (*société de capitaux*) resident in Luxembourg, (iii) a company resident in a State having a double tax treaty with Luxembourg and subject to a tax corresponding to Luxembourg CIT or a Luxembourg permanent establishment thereof, (iv) a company limited by share capital (*société de capitaux*) or a cooperative society (*société coopérative*) resident in the European Economic Area other than an EU Member State and liable to a tax corresponding to Luxembourg CIT or a Luxembourg permanent establishment thereof, or (v) a Swiss company limited by share capital (*société de capitaux*) which is effectively subject to corporate income tax in Switzerland without benefiting from an exemption.

No withholding tax is levied on capital gains and liquidation proceeds. However, capital gains realized by a non-resident shareholder on the disposal of shares held in a Luxembourg company may be subject to Luxembourg CIT if they are deemed to be speculative (i.e. if shares are disposed of within six months after their acquisition or if their disposal precedes their acquisition).

Net Wealth Tax

The Company is as a rule subject to Luxembourg net wealth tax ("NWT") on its net assets as determined for net wealth tax purposes. NWT is levied at the rate of 0.5% on net assets not exceeding €500 million and at the rate of 0.05% on the portion of the net assets exceeding €500 million. Net worth is referred to as the unitary value (*valeur unitaire*), as determined at January 1 of each year. The unitary value is in principle calculated as the difference between (i) assets estimated at their fair market value (*valeur estimée de réalisation*), and (ii) liabilities vis-à-vis third parties.

Under the participation exemption regime, a qualified shareholding held by the Company in a Qualified Subsidiary is exempt for net wealth tax purposes.

A minimum net wealth tax ("MNWT") is levied on companies having their statutory seat or central administration in Luxembourg. For entities for which the sum of fixed financial assets, receivables against related companies, transferable securities, and cash at bank exceeds 90% of their total balance sheet and €350,000, the MNWT is set at €4,815. For all other companies having their statutory seat or central administration in Luxembourg which do not fall within the scope of the €4,815 MNWT, the MNWT ranges from €535 to €32,100, depending on the company's total balance sheet.

Other Taxes

The issuance of our ordinary shares and any other amendment of our articles of association are currently subject to a €75 fixed registration duty. The disposal of our ordinary shares is not subject to a Luxembourg registration tax or stamp duty, unless recorded in a Luxembourg notarial deed or otherwise registered in Luxembourg.

Taxation of the Holders of Ordinary Shares

Luxembourg Tax Residency of the Holders of Our Ordinary Shares

A holder of our ordinary shares will not become resident, nor be deemed to be resident, in Luxembourg by reason only of the holding and/or disposing of our ordinary shares or the execution, performance, or enforcement of his/her rights thereunder.

Income Tax—Luxembourg Resident Holders

Luxembourg Individual Residents. Dividends and other payments derived from our ordinary shares by resident individual holders of our ordinary shares, who act in the course of the management of either their private wealth or their professional or business activity, are subject to income tax at the ordinary progressive rates. A tax credit is generally granted for withholding taxes levied at source within the limit of the tax payable in Luxembourg on such income, whereby any excess withholding tax is not refundable. 50% of the gross amount of dividends received from the Company by resident individual holders of our ordinary shares are exempt from income tax.

Capital gains realized on the disposal of our ordinary shares by resident individual holders of our ordinary shares, who act in the course of the management of their private wealth, are not subject to income tax, unless said capital gains qualify either as speculative gains or as gains on a substantial participation. Capital gains are deemed to be speculative and are subject to income tax at ordinary rates if our ordinary shares are disposed of within six months after their acquisition or if their disposal precedes their acquisition. Speculative gains are subject to income tax as miscellaneous income at ordinary rates. A participation is deemed to be substantial where a resident individual holder of our ordinary shares holds or has held, either alone or together with his/her spouse or partner and/or minor children, directly or indirectly at any time within the five years preceding the disposal, more than 10% of the share capital of the Company whose ordinary shares are being disposed of. A holder of our ordinary shares also is deemed to alienate a substantial participation if he acquired free of charge, within the five years preceding the transfer, a participation that was constituting a substantial participation in the hands of the alienator (or the alienators in case of successive transfers free of charge within the same five-year period). Capital gains realized on a substantial participation more than six months after the acquisition thereof are taxed according to the half-global rate method, (i.e., the average rate applicable to the total income is calculated according to progressive income tax rates and half of the average rate is applied to the capital gains realized on the substantial participation). A disposal may include a sale, an exchange, a contribution or any other kind of alienation of the participation.

Capital gains realized on the disposal of our ordinary shares by resident individual holders of our ordinary shares, who act in the course of their professional or business activity, are subject to income tax at ordinary rates. Taxable gains are determined as the difference between the price for which our ordinary shares have been disposed of and the lower of their cost or book value.

Luxembourg Fully-taxable Corporate Residents. Dividends and other payments derived from our ordinary shares by Luxembourg resident fully-taxable companies are subject to CIT and MBT, unless the conditions of the participation exemption regime, as described below, are satisfied. A tax credit is generally granted for withholding taxes levied at source within the limit of the tax payable in Luxembourg on such income, whereby any excess withholding tax is not refundable. If the conditions of the participation exemption regime are not met, 50% of the gross amount of dividends received by Luxembourg resident, fully-taxable companies from our ordinary shares are exempt from CIT and MBT.

Under the participation exemption regime (subject to the relevant anti-abuse rules), dividends derived from our ordinary shares may be exempt from CIT and MBT at the level of the holder of our ordinary shares if cumulatively (i) the holder of our ordinary shares is an Eligible Parent, and (ii) at the time the dividend is put at the holder of our ordinary shares' disposal, the holder of our ordinary shares has held or commits itself to hold for an uninterrupted period of at least 12 months a qualified shareholding ("Qualified Shareholding"). A Qualified Shareholding means ordinary shares representing a direct participation of at least 10% in the share capital of the Company or a direct participation in the Company of an acquisition price of at least €1.2 million (or an equivalent amount in another currency). Liquidation proceeds are assimilated to a received dividend and may be exempt under the same conditions. If the conditions of the participation exemption regime are not met, dividends derived by the Company from Qualified Subsidiaries may be exempt for 50% of their gross amount. Ordinary shares held through a tax-transparent entity are considered as being a direct participation proportionally to the percentage held in the net assets of the transparent entity.

Capital gains realized by a Luxembourg resident fully-taxable company on our ordinary shares are subject to CIT and MBT at ordinary rates, unless the conditions of the participation exemption regime, as described below, are satisfied. Under the participation exemption regime, capital gains realized on our ordinary shares may be exempt from CIT and MBT at the level of the holder of our ordinary shares if cumulatively (i) the holder of our ordinary shares is an Eligible Parent, and (ii) at the time the capital gain is realized, the holder of our ordinary shares has held or commits itself to hold for an uninterrupted period of at least 12 months our ordinary shares representing a direct participation in the share capital of the Company of at least 10% or a direct participation in the Company of an acquisition price of at least €6 million (or an equivalent amount in another currency). Taxable gains are determined as the difference between the price for which our ordinary shares have been disposed of and the lower of their cost or book value.

Luxembourg Residents Benefiting from a Special Tax Regime. Holders of our ordinary shares who are either (i) an undertaking for collective investment governed by the amended law of December 17, 2010, (ii) a specialized investment fund governed by the amended law of February 13, 2007, (iii) a family wealth management company governed by the amended law of May 11, 2007, or (iv) a reserved alternative investment fund treated as a specialized investment fund for Luxembourg tax purposes governed by the amended law of July 23, 2016, are exempt from income tax in Luxembourg. Dividends derived from and capital gains realized on our ordinary shares are thus not subject to Luxembourg income tax in their hands.

Income Tax—Luxembourg Non-Resident Holders

Non-resident holders of our ordinary shares who have neither a permanent establishment nor a permanent representative in Luxembourg to which or whom our ordinary shares are attributable, are not liable to any Luxembourg income tax on income and gains derived from our ordinary shares except capital gains realized on (i) a substantial participation before the acquisition or within the first six months of the acquisition thereof, or (ii) a substantial participation more than six months after the acquisition thereof by a holder of our ordinary shares who has been a former Luxembourg resident for more than 15 years and has become a non-resident, at the time of transfer, less than five years ago. A participation is deemed to be substantial where a shareholder holds or has held, either alone or, in case of an individual shareholder, together with his/her spouse or partner and/or minor children, directly or indirectly at any time within the five years preceding the disposal, more than 10% of the share capital of the Company whose ordinary shares are being disposed of. A shareholder also is deemed to alienate a substantial participation if he acquired free of charge, within the five years preceding the transfer, a participation that was constituting a substantial participation in the hands of the alienator (or the alienators in case of successive transfers free of charge within the same five-year period).

If the Company and a U.S. relevant holder are eligible for the benefits of the Treaty, such U.S. relevant holder generally should not be subject to Luxembourg tax on the gain from the disposal of such ordinary shares unless such gain is attributable to a permanent establishment of such U.S. relevant holder in Luxembourg.

Non-resident holders of our ordinary shares which have a permanent establishment or a permanent representative in Luxembourg to which or whom our ordinary shares are attributable, must include any income received, as well as any gain realized, on the sale, disposal or redemption of our ordinary shares, in their taxable income for Luxembourg tax assessment purposes, unless the conditions of the participation exemption regime, as described below, are satisfied. If the conditions of the

participation exemption regime are not fulfilled, 50% of the gross amount of dividends received by a Luxembourg permanent establishment or permanent representative may be, however, exempt from income tax. Taxable gains are determined as the difference between the price for which the ordinary shares have been disposed of and the lower of their cost or book value.

Under the participation exemption regime (subject to relevant anti-abuse rules), dividends derived from our ordinary shares may be exempt from income tax if cumulatively (i) our ordinary shares are attributable to a qualified permanent establishment ("Qualified Permanent Establishment"), and (ii) at the time the dividend is put at the disposal of the Qualified Permanent Establishment, it has held or commits itself to hold a Qualified Shareholding for an uninterrupted period of at least 12 months. A Qualified Permanent Establishment means (i) a Luxembourg permanent establishment of a company covered by Article 2 of the EU Parent-Subsidiary Directive, (ii) a Luxembourg permanent establishment of a company limited by share capital (*société de capitaux)* resident in a State having a tax treaty with Luxembourg, and (iii) a Luxembourg permanent establishment of a company limited by share capital (*société de capitaux*) or a cooperative society (*société coopérative*) resident in the European Economic Area other than a EU Member State. Liquidation proceeds are assimilated to a received dividend and may be exempt under the same conditions. Ordinary shares held through a tax transparent entity are considered as being a direct participation proportionally to the percentage held in the net assets of the transparent entity.

Under the participation exemption regime, capital gains realized on our ordinary shares may be exempt from income tax if (i) our ordinary shares are attributable to a Qualified Permanent Establishment, and (ii) at the time the capital gain is realized, the Qualified Permanent Establishment has held or commits itself to hold, for an uninterrupted period of at least 12 months, our ordinary shares representing a direct participation in the share capital of the Company of at least 10% or a direct participation in the Company of an acquisition price of at least €6 million (or an equivalent amount in another currency). Taxable gains are determined as the difference between the price for which our ordinary shares have been disposed of and the lower of their cost or book value.

Net Wealth Tax

Luxembourg resident holders of our ordinary shares, as well as non-resident holders of our ordinary shares who have a permanent establishment or a permanent representative in Luxembourg to which or whom our ordinary shares are attributable, are subject to Luxembourg NWT on our ordinary shares, except if the holder is (i) a resident or non-resident individual taxpayer, (ii) a securitization company governed by the amended law of March 22, 2004 on securitization, (iii) a company governed by the amended law of June 15, 2004 on venture capital vehicles, (iv) a professional pension institution governed by the amended law of July 13, 2005, (v) a specialized investment fund governed by the amended law of February 13, 2007, (vi) a family wealth management company governed by the amended law of May 11, 2007, (vii) an undertaking for collective investment governed by the amended law of December 17, 2010, or (viii) a reserved alternative investment fund governed by the amended law of July 23, 2016. However, (i) a securitization company governed by the amended law of March 22, 2004 on securitization, (ii) a company governed by the amended law of June 15, 2004 on venture capital vehicles, (iii) a professional pension institution governed by the amended law of July 13, 2005, and (iv) a reserved alternative investment fund treated as a venture capital vehicle for Luxembourg tax purposes and governed by the amended law of July 23, 2016, remain subject to MNWT.

Under the participation exemption, a Qualified Shareholding held in the Company by an Eligible Parent or attributable to a Qualified Permanent Establishment may be exempt. The net wealth tax exemption for a Qualified Shareholding does not require the completion of the 12-month holding period.

Other Taxes

Under Luxembourg tax law, where an individual holder of our ordinary shares is a resident of Luxembourg for inheritance tax purposes at the time of his or her death, our ordinary shares are included in his or her taxable basis for inheritance tax purposes. On the contrary, no inheritance tax is levied on the transfer of our ordinary shares upon the death of an individual holder in cases where the deceased was not a resident of Luxembourg for inheritance purposes.

Gift tax may be due on a gift or donation of our ordinary shares, if the gift is recorded in a Luxembourg notarial deed or otherwise registered in Luxembourg.

U.S. Federal Income Tax Considerations

The following summary describes certain U.S. federal income tax considerations generally applicable to U.S. Holders (as defined below) of our ordinary shares. This summary deals only with our ordinary shares held as capital assets within the meaning of Section 1221 of the Internal Revenue Code of 1986, as amended (the "Internal Revenue Code"). This summary also

does not address the tax consequences that may be relevant to holders in special tax situations including, without limitation, dealers in securities, traders that elect to use a mark-to-market method of accounting, holders that own our ordinary shares as part of a "straddle," "hedge," "conversion transaction," or other integrated investment, banks or other financial institutions, individual retirement accounts and other tax-deferred accounts, insurance companies, tax-exempt organizations, U.S. expatriates, holders whose functional currency is not the U.S. dollar, holders subject to the alternative minimum tax, holders that acquired our ordinary shares in a compensatory transaction, or holders that actually or constructively own 10% or more of the total voting power or value of our ordinary shares.

This summary is based upon the Internal Revenue Code, applicable U.S. Treasury regulations, administrative pronouncements and judicial decisions, in each case as in effect on the date hereof, all of which are subject to change (possibly with retroactive effect). No ruling will be requested from the Internal Revenue Service (the "IRS") regarding the tax consequences of the initial listing, and there can be no assurance that the IRS will agree with the discussion set out below. This summary does not address any U.S. federal tax consequences other than U.S. federal income tax consequences (such as the estate and gift tax or the Medicare tax on net investment income).

As used herein, the term "U.S. Holder" means a beneficial owner of our ordinary shares that is, for U.S. federal income tax purposes, (i) a citizen or resident of the United States, (ii) a corporation or other entity taxable as a corporation created or organized under the laws of the United States or any state thereof or therein or the District of Columbia, (iii) an estate the income of which is subject to U.S. federal income taxation regardless of its source, or (iv) a trust (a) that is subject to the supervision of a court within the United States and the control of one or more United States persons as described in Internal Revenue Code Section 7701(a)(30), or (b) that has a valid election in effect under applicable U.S. Treasury regulations to be treated as a United States person.

If an entity or other arrangement treated as a partnership for U.S. federal income tax purposes acquires our ordinary shares, the tax treatment of a partner in the partnership generally will depend upon the status of the partner and the activities of the partnership. Partners of a partnership considering an investment in our ordinary shares should consult their tax advisers regarding the U.S. federal income tax consequences of acquiring, owning, and disposing of our ordinary shares.

THE SUMMARY OF U.S. FEDERAL INCOME TAX CONSEQUENCES SET OUT BELOW IS FOR GENERAL INFORMATION ONLY. ALL PROSPECTIVE INVESTORS SHOULD CONSULT THEIR TAX ADVISERS AS TO THE PARTICULAR TAX CONSEQUENCES TO THEM OF OWNING OUR ORDINARY SHARES, INCLUDING THE APPLICABILITY AND EFFECT OF STATE, LOCAL AND NON-U.S. TAX LAWS AND POSSIBLE CHANGES IN TAX LAW.

Dividends

Subject to the discussion below under "—Passive Foreign Investment Company," the amount of dividends paid to a U.S. Holder with respect to our ordinary shares generally will be included in the U.S. Holder's gross income as ordinary income from foreign sources to the extent paid out of our current or accumulated earnings and profits (as determined for U.S. federal income tax purposes). Distributions in excess of earnings and profits will be treated as a non-taxable return of capital to the extent of the U.S. Holder's adjusted tax basis in our ordinary shares and thereafter as capital gain. However, we do not intend to calculate our earnings and profits under U.S. federal income tax principles. Therefore, U.S. Holders should expect that a distribution will generally be treated as a dividend even if that distribution would otherwise be treated as a non-taxable return of capital or as capital gain under the rules described above. The amount of any distribution paid in foreign currency will be equal to the U.S. dollar value of such currency, translated at the spot rate of exchange on the date such distribution is received, regardless of whether the payment is in fact converted into U.S. dollars at that time.

Foreign withholding tax (if any) paid on dividends on our ordinary shares at the rate applicable to a U.S. Holder (taking into account any applicable income tax treaty) will, subject to limitations and conditions, be treated as foreign income tax eligible for credit against such holder's U.S. federal income tax liability or, at such holder's election, eligible for deduction in computing such holder's U.S. federal taxable income. Dividends paid on our ordinary shares generally will constitute "passive category income" for purposes of the foreign tax credit. However, if we are a "United States-owned foreign corporation," solely for foreign tax credit purposes, a portion of the dividends allocable to our U.S. source earnings and profits may be recharacterized as U.S. source. A "United States-owned foreign corporation" is any foreign corporation in which United States persons own, directly or indirectly, 50% or more (by vote or by value) of the stock. In general, United States-owned foreign corporations with less than 10% of earnings and profits attributable to sources within the United States are excepted from these rules. Although we don't believe we are currently a "United States-owned foreign corporation," we may become one in the future. In such case, if 10% or more of our earnings and profits are attributable to sources within the United States, a portion of the dividends paid on our ordinary shares allocable to our U.S. source earnings and profits will be treated as U.S.

source, and, as such, a U.S. Holder may not offset any foreign tax withheld as a credit against U.S. federal income tax imposed on that portion of dividends. The rules governing the treatment of foreign taxes imposed on a U.S. Holder and foreign tax credits are complex, and U.S. Holders should consult their tax advisors about the impact of these rules in their particular situations.

Dividends paid to a non-corporate U.S. Holder by a "qualified foreign corporation" may be subject to reduced rates of taxation if certain holding period and other requirements are met. "Qualified foreign corporation" generally includes a foreign corporation (other than a foreign corporation that is a PFIC (as defined below) with respect to the relevant U.S. Holder for the taxable year in which the dividends are paid or for the preceding taxable year) (i) whose ordinary shares are readily tradable on an established securities market in the United States, or (ii) which is eligible for benefits under a comprehensive U.S. income tax treaty that includes an exchange of information program and which the U.S. Treasury Department has determined is satisfactory for these purposes. Our ordinary shares are expected to be readily tradable on the NYSE, an established securities market. U.S. Holders should consult their own tax advisors regarding the availability of the reduced tax rate on dividends in light of their particular circumstances. The dividends will not be eligible for the dividends received deduction available to corporations in respect of dividends received from other U.S. corporations.

Disposition of Our Ordinary Shares

Subject to the discussion below under "—Passive Foreign Investment Company," a U.S. Holder generally will recognize capital gain or loss for U.S. federal income tax purposes on the sale or other taxable disposition of our ordinary shares equal to the difference, if any, between the amount realized and the U.S. Holder's adjusted tax basis in shares. In general, capital gains recognized by a non-corporate U.S. Holder, including an individual, are subject to a lower rate under current law if such U.S. Holder held shares for more than one year. The deductibility of capital losses is subject to limitations. Any such gain or loss generally will be treated as U.S. source income or loss for purposes of the foreign tax credit. A U.S. Holder's initial tax basis in shares generally will equal the cost of such shares.

If the consideration received upon the sale or other taxable disposition of our ordinary shares is paid in foreign currency, the amount realized will be the U.S. dollar value of the payment received, translated at the spot rate of exchange on the date of taxable disposition. If our ordinary shares are treated as traded on an established securities market, a cash basis U.S. Holder and an accrual basis U.S. Holder who has made a special election (which must be applied consistently from year to year and cannot be changed without the consent of the IRS) will determine the U.S. dollar value of the amount realized in foreign currency by translating the amount received at the spot rate of exchange on the settlement date of the sale. An accrual basis U.S. Holder that does not make the special election will recognize exchange gain or loss to the extent attributable to the difference between the exchange rates on the sale date and the settlement date, and such exchange gain or loss generally will constitute ordinary income or loss.

Passive Foreign Investment Company

In general, a non-U.S. corporation will be classified as a PFIC for any taxable year if at least (i) 75% of its gross income is classified as "passive income," or (ii) 50% of its assets (determined on the basis of a quarterly average) produce or are held for the production of passive income. For these purposes, cash is considered a passive asset. In making this determination, the non-U.S. corporation is treated as earning its proportionate share of any income and owning its proportionate share of any assets of any corporation in which it holds a 25% or greater interest. Based on our historic and expected operations, composition of assets and market capitalization, we do not expect to be classified as a PFIC for the current table year or for the foreseeable future. However, the determination of whether we are a PFIC is made annually. Moreover, the value of our assets for purposes of the PFIC determination will generally be determined by reference to the public price of our ordinary shares, which may fluctuate significantly. Therefore, there is no assurance that we would not be classified as a PFIC in the future due to, for example, changes in the composition of our assets or income, as well as changes in our market capitalization. Under the PFIC rules, if we were considered a PFIC at any time that a U.S. Holder holds our ordinary shares, we would continue to be treated as a PFIC with respect to such holder's investment unless (i) we cease to be a PFIC, and (ii) the U.S. Holder has made a "deemed sale" election under the PFIC rules.

If we are considered a PFIC for any taxable year that a U.S. Holder holds our ordinary shares, any gain recognized by the U.S. Holder on a sale or other disposition of our ordinary shares would be allocated pro-rata over the U.S. Holder's holding period for the ordinary shares. The amounts allocated to the taxable year of the sale or other disposition and to any year before we became a PFIC would be taxed as ordinary income. The amount allocated to each other taxable year would be subject to tax at the highest rate in effect for individuals or corporations, as appropriate, for that taxable year, and an interest charge would be imposed. Further, to the extent that any distribution received by a U.S. Holder on our ordinary shares exceeds 125% of the average of the annual distributions on the ordinary shares received during the preceding three years or the U.S. Holder's

holding period, whichever is shorter, that distribution would be subject to taxation in the same manner as gain on the sale or other disposition of ordinary shares if we were a PFIC, described above. Certain elections may be available that would result in alternative treatments (such as mark-to-market treatment) of the ordinary shares. If we are treated as a PFIC with respect to a U.S. Holder for any taxable year, the U.S. Holder will be deemed to own shares in any of our subsidiaries that also are PFICs. A timely election to treat us as a qualified electing fund under the Internal Revenue Code would result in an alternative treatment. However, we do not intend to prepare or provide the information that would enable U.S. Holders to make a qualified electing fund election. If we are considered a PFIC, a U.S. Holder also will be subject to annual information reporting requirements. U.S. Holders should consult their own tax adviser about the potential application of the PFIC rules to an investment in the ordinary shares.

Information Reporting and Backup Withholding

Dividend payments and proceeds paid from the sale or other taxable disposition of ordinary shares may be subject to information reporting to the IRS. In addition, a U.S. Holder (other than exempt holders who establish their exempt status if required) may be subject to backup withholding on cash payments received in connection with dividend payments and proceeds from the sale or other taxable disposition of our ordinary shares made within the United States or through certain U.S.-related financial intermediaries.

Backup withholding will not apply, however, to a U.S. Holder who furnishes a correct taxpayer identification number, makes other required certification and otherwise complies with the applicable requirements of the backup withholding rules. Backup withholding is not an additional tax. Rather, any amount withheld under the backup withholding rules will be creditable or refundable against the U.S. Holder's U.S. federal income tax liability, provided the required information is timely furnished to the IRS.

Foreign Financial Asset Reporting

Certain U.S. Holders are required to report their holdings of certain foreign financial assets, including equity of foreign entities, if the aggregate value of all of these assets exceeds certain threshold amounts. The ordinary shares are expected to constitute foreign financial assets subject to these requirements unless the ordinary shares are held in an account at certain financial institutions. U.S. Holders should consult their tax advisors regarding the application of these reporting requirements.

FATCA

Provisions under Sections 1471 through 1474 of the Internal Revenue Code and applicable U.S. Treasury regulations commonly referred to as "FATCA" generally impose 30% withholding on certain "withholdable payments" and, in the future, may impose such withholding on "foreign passthru payments" made by a "foreign financial institution" (each as defined in the Internal Revenue Code) that has entered into an agreement with the IRS to perform certain diligence and reporting obligations with respect to the foreign financial institution's U.S.-owned accounts. The United States has entered into an intergovernmental agreement, or IGA, with Luxembourg, implemented by the Luxembourg law dated July 24, 2015 and amended on June 18, 2020, which modifies the FATCA withholding regime described above. Under the regulations, any withholding on foreign passthru payments would apply to passthru payments made on or after the date that is two years after the date of publication in the Federal Register of applicable final regulations defining foreign passthru payments. Although these regulations are not final, taxpayers generally may rely on them until final regulations are issued. Prospective investors should consult their tax advisors regarding the potential impact of FATCA, the Luxembourg IGA and any non-U.S. legislation implementing FATCA on the investment in our ordinary shares.

F. Dividends and Paying Agents

Not applicable.

G. Statements by Experts

Not applicable.

H. Documents on Display

Our SEC filings are available to you on the SEC's website at http://www.sec.gov. This site contains reports, proxy and information statements and other information regarding issuers that file electronically with the SEC. The information on that website is not part of this report.

We also make available on the Investors section of our website, free of charge, our annual reports on Form 20-F and the text of our reports on Form 6-K, including any amendments to these reports, as well as certain other SEC filings, as soon as reasonably practicable after they are electronically filed with or furnished to the SEC. Our website address is www.spotify.com. The information on that website is not part of this report.

We announce material financial information to our investors using our Investors website (investors.spotify.com), SEC filings, press releases, public conference calls, and webcasts. We use these channels, as well as social media, to communicate with our users and the public about our company, our services, and other issues. It is possible that the information we post on these channels could be deemed to be material information. Therefore, we encourage investors, the media, and others interested in our company to review the information we post on the channels listed on our Investors website. Information contained on our website is not part of this annual report on Form 20-F or any other filings we make with the SEC.

I. Subsidiary Information

Not applicable.

Item 11. Quantitative and Qualitative Disclosures About Market Risk

Our activities expose us to a variety of market risks. Our primary market risk exposures relate to currency, interest rate, share price and investment risks. To manage these risks and our exposure to the unpredictability of financial markets, we seek to minimize potential adverse effects on our financial performance and capital.

Volatile market conditions arising from the COVID-19 pandemic may result in significant changes in foreign exchange rates, interest rates, and share prices, both our own and those of third parties we use to value certain of our long-term investments. Refer to Part II Item IA. “Risk Factors” in this document for further discussion on the impact of the COVID-19 pandemic on our business, operating results, and financial condition.

Financial risk management

Our operations are exposed to financial risks. To manage these risks efficiently, we have established guidelines in the form of a treasury policy that serves as a framework for the daily financial operations. The treasury policy stipulates the rules and limitations for the management of financial risks.

Financial risk management is centralized within Treasury who are responsible for the management of financial risks. Treasury manages and executes the financial management activities, including monitoring the exposure of financial risks, cash management, and maintaining a liquidity reserve. Treasury operates within the limits and policies authorized by the board of directors.

Currency Risk

Currency risk manifests itself in transaction exposure, which relates to business transactions denominated in foreign currency required by operations (purchasing and selling) and/or financing (interest and amortization). The volatility in foreign exchange rates due to the COVID-19 pandemic, in particular a weakening of foreign currencies relative to the Euro may negatively affect our revenue. Our general policy is to hedge transaction exposure on a case-by-case basis. Translation exposure relates to net investments in foreign operations. We do not conduct translation risk hedging.

We will be subject to tax in future periods as a result of foreign exchange movements between USD, EUR, and SEK, primarily related to our investment in TME.

Transaction Exposure Sensitivity

In most cases, our customers are billed in their respective local currency. Major payments, such as salaries, consultancy fees, and rental fees are settled in local currencies. Royalty payments are primarily settled in Euros and U.S. dollars. Hence, the operational need to net purchase foreign currency is due primarily to a deficit from such settlements.

The table below shows the immediate impact on net income before tax of a 10% strengthening of foreign currencies relative to the Euro in the closing exchange rate of significant currencies to which we have transaction exposure at December 31, 2020. The sensitivity associated with a 10% weakening of a particular currency would be equal and opposite. This assumes that each currency moves in isolation.

2020	SEK	USD
	(in € millions)	
(Increase)/decrease in loss before tax	(13)	67

Translation Exposure Sensitivity

The impact on our equity would be approximately €105 million if the Euro weakened by 10% against all translation exposure currencies, based on the exposure at December 31, 2020.

Interest Rate Risk

Interest rate risk is the risk that changes in interest rates will have a negative impact on earnings and cash flow.

Our exposure to interest rate risk is related to our interest-bearing assets, primarily our short term debt securities. Fluctuations in interest rates impact the yield of the investment. The sensitivity analysis considered the historical volatility of short term interest rates and determined that it was reasonably possible that a change of 100 basis points could be experienced in the near term. A hypothetical 100 basis point increase in interest rates would have impacted interest income by €6 million for the year ended December 31, 2020.

Share Price Risk

Share price risk is the risk that the fair value or future cash flows of a financial instrument will fluctuate due to changes in the fair value of the Company's ordinary share price. Our exposure to this risk relates primarily to the outstanding warrants.

The impact on the fair value of the warrants with an increase or decrease in the Company's ordinary share price of 10% would have resulted in a range of €72 million to €106 million at December 31, 2020.

The impact on the accrual for social costs on outstanding share-based compensation awards of an increase or decrease in the Company's ordinary share price of 10% would have resulted in a change of €27 million at December 31, 2020.

Investment Risk

We are exposed to investment risk as it relates to changes in the market value of our long term investments, due primarily to volatility in the share price used to measure the investment and exchange rates. The majority of our long term investments relate to TME. The impact on the fair value of the our long term investment in TME using reasonably possible alternative assumptions with an increase or decrease of TME's share price used to value our equity interest of 10% results in a range of €2,005 million to €2,451 million at December 31, 2020.

Item 12. Description of Securities Other Than Equity Securities

Not applicable.

A. Debt Securities

Not applicable.

B. Warrants and Rights

Not applicable.

C. Other Securities

Not applicable.

D. American Depositary Shares

Not applicable.

PART II

Item 13. Defaults, Dividend Arrearages and Delinquencies

None

Item 14. Material Modifications to the Rights of Security Holders and Use of Proceeds

None

Item 15. Controls and Procedures

A. Disclosure Controls and Procedures

As required by Rules 13a-15(b) and 15d-15(b) under the Exchange Act, our management, with the participation of our Chief Executive Officer and Chief Financial Officer, has evaluated the effectiveness of our disclosure controls and procedures (as defined in Rules 13a-15(e) and 15d-15(e) under the Exchange Act), as of the end of the period covered by this Annual Report on Form 20-F. Based on such evaluation, our Chief Executive Officer and Chief Financial Officer have concluded that, as of December 31, 2020, our disclosure controls and procedures were effective at the reasonable assurance level.

In designing and evaluating our disclosure controls and procedures, management recognizes that any controls and procedures, no matter how well designed and operated, can provide only reasonable assurance of achieving the desired control objectives, and management is required to apply its judgment in evaluating and implementing possible controls and procedures.

B. Management's annual report on internal control over financial reporting

Our management is responsible for establishing and maintaining adequate internal control over financial reporting (as defined in Rule 13a-15(f) and 15d-15(f) of the Exchange Act). Our management assessed the effectiveness of our internal control over financial reporting as of December 31, 2020. In making this assessment, our management used the criteria set forth by the Committee of Sponsoring Organizations of the Treadway Commission ("COSO") in Internal Control —Integrated Framework (2013). Based on our assessment, our management concluded that our internal control over financial reporting was effective as of December 31, 2020. The effectiveness of our internal control over financial reporting as of December 31, 2020 has been audited by Ernst & Young AB, an independent registered public accounting firm, as stated in their report that is included herein.

The effectiveness of any system of internal control over financial reporting is subject to inherent limitations, including the exercise of judgment in designing, implementing, operating, and evaluating the controls and procedures, and the inability to eliminate misconduct completely. Accordingly, any system of internal control over financial reporting can only provide reasonable, not absolute, assurances. In addition, projections of any evaluation of effectiveness to future periods are subject to the risk that controls may become inadequate because of changes in conditions, or that the degree of compliance with the policies or procedures may deteriorate. We intend to continue to monitor and upgrade our internal controls as necessary or appropriate for our business, but cannot assure that such improvements will be sufficient to provide us with effective internal control over financial reporting.

C. Attestation report of the registered public accounting firm

Please see the report of Ernst & Young AB, an independent registered public accounting firm, included in "Item 18. Financial Statements."

D. Changes in internal control over financial reporting

There were no changes to our internal control over financial reporting during the year ended December 31, 2020 that have materially affected, or are reasonably likely to materially affect, our internal control over financial reporting. We have not experienced any material impact to our internal control over financial reporting despite the fact that our employees are currently working remotely due to the COVID-19 pandemic. We are continually monitoring and assessing the COVID-19 situation to minimize the impact of the pandemic on the design and operating effectiveness of our internal control over financial reporting.

Item 16A. Audit Committee Financial Expert

Our board of directors has determined that Mr. Thomas Staggs is an "audit committee financial expert," as defined in Item 16A of Form 20-F. All audit committee members satisfy the independence requirements set forth under the rules of the NYSE and in Rule 10A-3 under the Exchange Act.

Item 16B. Code of Ethics

We have adopted the Spotify Code of Conduct and Ethics, which applies to all of directors, officers, employees, consultants and others working on our behalf, and is intended to meet the definition of "code of ethics" under Item 16B of Form 20-F. The Spotify Code of Conduct and Ethics is available on our website at investors.spotify.com. We updated the Spotify Code of Conduct and Ethics in December 2020 to introduce, among other changes, guidelines for internal communications. We did not grant any waivers to the Spotify Code of Conduct and Ethics during the year ended December 31, 2020.

Item 16C. Principal Accountant Fees and Services

Ernst & Young AB have acted as our principal accountants for the years ended December 31, 2020 and 2019, respectively. The following table summarizes the charge for professional fees rendered in those periods:

	2020	2019
	(in € thousands)	
Audit fees	5,179	4,920
Audit-related fees	100	425
Tax fees	4	82
All other fees	—	—
Total	5,283	5,427

"Audit fees" are the aggregate fees earned by the Ernst & Young entities for the audit of our consolidated annual financial statements, reviews of interim financial statements and attestation services that are provided in connection with statutory and regulatory filings or engagements. "Audit-related fees" are fees charged by the Ernst & Young entities for assurance and related services that are reasonably related to the performance of the audit or review of our financial statements and are not reported under "Audit fees." This category comprises fees for internal control reviews, agreed-upon procedure engagements and other attestation services subject to regulatory requirements. "Tax Fees" include fees billed for tax compliance, tax advice and tax planning services. "All other fees" are the fees for products and services other than those in the above three categories.

All audit services and permitted non-audit services to be performed for us by our independent auditor must be approved by our Audit Committee in advance to ensure that such engagements do not impair the independence of our independent registered public accounting firm. The Audit Committee generally pre-approves particular services or categories of services on a case-by-case basis. All services provided to us by our independent auditor in 2020 and 2019 were pre-approved by the Audit Committee.

Item 16D. Exemptions from the Listing Standards for Audit Committees

None.

Item 16E. Purchases of Equity Securities by the Issuer and Affiliated Purchasers

In November 2018, the board of directors approved a share repurchase program of the Company's ordinary shares up to the amount of $1.0 billion. Repurchases of up to 10,000,000 of the Company's ordinary shares were authorized by the Company's general meeting of shareholders on April 21, 2016. The authorization to repurchase will expire on April 21, 2021 unless renewed by decision of a general meeting of shareholders of the Company. The timing and actual number of shares repurchased will depend on a variety of factors, including price, general business and market conditions, and alternative investment opportunities. The repurchase program will be executed consistent with the Company's capital allocation strategy of prioritizing investment to grow the business over the long term.

2020	Total Number of Shares Purchased		Average Price Paid per Share		Total Number of Shares Purchased as Part of Publicly Announced Plans or Programs[1]	Maximum Value of Shares that May Yet Be Purchased Under the Plans or Programs
January	—		$ —		—	$ 427,748,748
February	—		$ —		—	$ 427,748,748
March	—		$ —		—	$ 427,748,748
April	2,012,200	(2)	$ —	(3)	—	$ 427,748,748
May	—		$ —		—	$ 427,748,748
June	—		$ —		—	$ 427,748,748
July	2,026,000	(2)	$ —	(4)	—	$ 427,748,748
August	—		$ —		—	$ 427,748,748
September	—		$ —		—	$ 427,748,748
October	—		$ —		—	$ 427,748,748
November	1,000,000	(2)	$ —	(5)	—	$ 427,748,748
December	—		$ —		—	$ 427,748,748
Total	**5,038,200**		**$ —**		**—**	**$ 427,748,748**

(1) The column includes all the shares repurchased as a part of the repurchase program announced on November 5, 2018, as further described above. As of December 31, 2020, we had repurchased a total of approximately $572 million under the share repurchase program.

(2) On April 6, 2020, July 10, 2020, and November 5, 2020, the Company issued ordinary shares to our Netherlands subsidiary at par value and subsequently repurchased those shares at the same price. These shares are held in treasury in order to facilitate the fulfillment of option exercises and RSU releases under the Company's stock option and RSU plans.

(3) Price paid per share is equal to the USD equivalent of par value, or $0.000674 per share, as of the date of purchase.

(4) Price paid per share is equal to the USD equivalent of par value, or $0.000706 per share, as of the date of purchase.

(5) Price paid per share is equal to the USD equivalent of par value, or $0.000739 per share, as of the date of purchase

During the year ended December 31, 2020, the average price paid per share for share repurchases was equal to par value of €0.000625. As of December 31, 2020, the maximum value of shares that may yet be purchased under the share repurchase program is approximately €350 million, translated into Euro from U.S. Dollars at the exchange rate as published by Reuters on December 31, 2020.

Item 16F. Change in Registrant's Certifying Accountant

Not applicable.

Item 16G. Corporate Governance

Our common shares are listed on the NYSE. For purposes of NYSE rules, so long as we are a foreign private issuer, we are eligible to take advantage of certain exemptions from NYSE corporate governance requirements provided in the NYSE rules. We are required to disclose the significant ways in which our corporate governance practices differ from those that apply to U.S. companies under NYSE listing standards. Set forth below is a summary of these differences:

Board Committees—The NYSE rules require domestic companies to have a compensation committee and a nominating and corporate governance committee composed entirely of independent directors, but as a foreign private issuer we

are exempt from these requirements. We have a remuneration committee comprised of three members, and we believe that all of the committee members satisfy the "independence" requirements of the NYSE rules. We do not have a nominating and corporate governance committee.

Shareholder Approval of Equity Plans—The NYSE rules require shareholder approval of stock option plans and other equity compensation arrangements available to officers, directors or employees and any material amendments thereto, but as a foreign private issuer we are permitted to follow home country practice in lieu of those rules. Under home country practice, shareholder approval of stock option plans and other equity compensation arrangements is not required; however, we are required to seek shareholder approval of the compensation paid to our directors. The Company's Board of Directors approves the stock option plans and other equity compensation arrangements that do not require shareholder approval under our home country practice.

Item 16H. Mine Safety Disclosure

Not applicable.

PART III

Item 17. Financial Statements

See Item 18.

Item 18. Financial Statements

The audited Consolidated Financial Statements as required under Item 18 are attached hereto starting on page F-1 of this Form 20-F.

Item 19. Exhibits

The following are filed as exhibits hereto:

1.1	Amended and Restated Articles of Association of Spotify Technology S.A. (English Translation), as currently in effect.
2.1	Description of the Registrant's Securities Registered Pursuant to Section 12 of the Securities Exchange Act of 1934. (filed as Exhibit 2.1 to Spotify Technology S.A.'s Annual Report on Form 20-F filed on February 12, 2020, File No. 001-38438, and incorporated herein by reference).
4.1	Form of Terms and Conditions for Warrants 2019 in Spotify Technology S.A. (filed as Exhibit 4.1 to Spotify Technology S.A.'s Annual Report on Form 20-F filed on February 12, 2020, File No. 001-38438, and incorporated herein by reference).
4.2	Form of Terms and Conditions for Warrants 2017 in Spotify Technology S.A. (filed as Exhibit 10.2 to Spotify Technology S.A.'s Form F-1 filed on February 28, 2018, File No. 333-223300, and incorporated herein by reference).
4.3	Form of Terms and Conditions for Warrants 2016 in Spotify Technology S.A. (filed as Exhibit 10.1 to Spotify Technology S.A.'s Form F-1 filed on February 28, 2018, File No. 333-223300, and incorporated herein by reference).
4.4	Terms and Conditions Governing Employee Stock Options 2021/2026 in Spotify Technology S.A., dated April 1, 2021.
4.5	First Amendment to Terms and Conditions Governing Employee Stock Options 2020/2025 and Terms and Conditions Governing Employee Restricted Stock Units 2020/2025 in Spotify Technology S.A., dated December 2, 2020.
4.6	Terms and Conditions Governing Employee Stock Options 2020/2025 in Spotify Technology S.A., dated January 1, 2020 (filed as Exhibit 99.1 to Spotify Technology S.A.'s Form S-8 filed on December 30, 2019, File No. 333-235746, and incorporated herein by reference).
4.7	Terms and Conditions Governing Employee Stock Options 2019/2024 in Spotify Technology S.A., dated January 1, 2019 (filed as Exhibit 4.3 to Spotify Technology S.A.'s Annual Report on Form 20-F filed on February 12, 2019, File No. 001-38438, and incorporated herein by reference).
4.8	Terms and Conditions Governing Employee Stock Options 2019/2024 Interim in Spotify Technology S.A., dated January 1, 2019 (filed as Exhibit 4.4 to Spotify Technology S.A.'s Annual Report on Form 20-F filed on February 12, 2019, File No. 001-38438, and incorporated herein by reference).
4.9	Terms and Conditions Governing Employee Stock Options 2018/2023 in Spotify Technology S.A., dated January 1, 2018 (filed as Exhibit 10.3 to Spotify Technology S.A.'s Form F-1 filed on February 28, 2018, File No. 333-223300, and incorporated herein by reference).

4.10	Terms and Conditions Governing Employee Stock Options 2017/2022 in Spotify Technology S.A., dated December 2, 2016 (filed as Exhibit 10.4 to Spotify Technology S.A.'s Form F-1 filed on February 28, 2018, File No. 333-223300, and incorporated herein by reference).
4.11	Terms and Conditions Governing Employee Stock Options 2016/2021 in Spotify Technology S.A., dated January 1, 2016 (filed as Exhibit 10.5 to Spotify Technology S.A.'s Form F-1 filed on February 28, 2018, File No. 333-223300, and incorporated herein by reference).
4.12	Terms and Conditions Governing Employee Stock Options 2015/2020 in Spotify Technology S.A., dated March 1, 2015 (filed as Exhibit 10.6 to Spotify Technology S.A.'s Form F-1 filed on February 28, 2018, File No. 333-223300, and incorporated herein by reference).
4.13	Terms and Conditions Governing Employee Stock Options 2014/2019 in Spotify Technology S.A., dated March 1, 2014 (filed as Exhibit 10.7 to Spotify Technology S.A.'s Form F-1 filed on February 28, 2018, File No. 333-223300, and incorporated herein by reference).
4.14	Terms and Conditions Governing Employee Restricted Stock Units 2021/2026 in Spotify Technology S.A., dated April 1, 2021.
4.15	Terms and Conditions Governing Employee Restricted Stock Units 2020/2025 in Spotify Technology S.A., dated January 1, 2020 (filed as Exhibit 99.2 to Spotify Technology S.A.'s Form S-8 filed on December 30, 2019, File No. 333-235746, and incorporated herein by reference).
4.16	Terms and Conditions Governing Restricted Stock Units 2019/2024 in Spotify Technology S.A., dated January 1, 2019 (filed as Exhibit 4.10 to Spotify Technology S.A.'s Annual Report on Form 20-F filed on February 12, 2019, File No. 001-38438, and incorporated herein by reference).
4.17	Terms and Conditions Governing Restricted Stock Units 2018/2023 in Spotify Technology S.A., dated January 1, 2018 (filed as Exhibit 10.8 to Spotify Technology S.A.'s Form F-1 filed on February 28, 2018, File No. 333-223300, and incorporated herein by reference).
4.18	Terms and Conditions Governing Restricted Stock Units 2017/2022 in Spotify Technology S.A., dated June 1, 2017 (filed as Exhibit 10.9 to Spotify Technology S.A.'s Form F-1 filed on February 28, 2018, File No. 333-223300, and incorporated herein by reference).
4.19	Terms and Conditions Governing Restricted Stock Units 2016/2021 in Spotify Technology S.A., dated June 1, 2016 (filed as Exhibit 10.10 to Spotify Technology S.A.'s Form F-1 filed on February 28, 2018, File No. 333-223300, and incorporated herein by reference).
4.20	Terms and Conditions Governing Restricted Stock Units 2015/2020 in Spotify Technology S.A., dated June 1, 2015 (filed as Exhibit 10.11 to Spotify Technology S.A.'s Form F-1 filed on February 28, 2018, File No. 333-223300, and incorporated herein by reference).
4.21	Terms and Conditions Governing Restricted Stock Units 2014/2019 in Spotify Technology S.A., dated October 1, 2014 (filed as Exhibit 10.12 to Spotify Technology S.A.'s Form F-1 filed on February 28, 2018, File No. 333-223300, and incorporated herein by reference).
4.22	Terms and Conditions Governing Director Stock Options 2020/2025 in Spotify Technology S.A., dated April 22, 2020 (filed as Exhibit 99.1 to Spotify Technology S.A.'s Form S-8 filed on April 29, 2020, File No. 333-237908, and incorporated herein by reference).
4.23	Terms and Conditions Governing Director Stock Options 2019/2023 in Spotify Technology S.A., dated April 19, 2019 (filed as Exhibit 99.1 to Spotify Technology S.A.'s Form S-8 filed on April 29, 2019, File No. 333-231102, and incorporated herein by reference).

4.24	Terms and Conditions Governing Director Restricted Stock Units 2020/2025 in Spotify Technology S.A., dated April 22, 2020 (filed as Exhibit 99.2 to Spotify Technology S.A.'s Form S-8 filed on April 29, 2020, File No. 333-237908, and incorporated herein by reference).
4.25	Terms and Conditions Governing Director Restricted Stock Units 2019/2023 in Spotify Technology S.A., dated April 19, 2019 (filed as Exhibit 99.2 to Spotify Technology S.A.'s Form S-8 filed on April 29, 2019, File No. 333-231102, and incorporated herein by reference).
4.26	Terms and Conditions Governing Director Restricted Stock Units 2018/2022 in Spotify Technology S.A., dated February 28, 2018 (filed as Exhibit 10.13 to Spotify Technology S.A.'s Form F-1 filed on February 28, 2018, File No. 333-223300, and incorporated herein by reference).
4.27	Terms and Conditions Governing Director Restricted Stock Units 2017/2021 in Spotify Technology S.A., dated June 30, 2017 (filed as Exhibit 10.14 to Spotify Technology S.A.'s Form F-1 filed on February 28, 2018, File No. 333-223300, and incorporated herein by reference).
4.28	Terms and Conditions Governing Director Restricted Stock Units 2016/2020 in Spotify Technology S.A., dated September 30, 2016 (filed as Exhibit 10.15 to Spotify Technology S.A.'s Form F-1 filed on February 28, 2018, File No. 333-223300, and incorporated herein by reference).
4.29	The Echo Nest Corporation 2007 Stock Option and Grant Plan (filed as Exhibit 10.16 to Spotify Technology S.A.'s Form F-1 filed on February 28, 2018, File No. 333-223300, and incorporated herein by reference).
4.30	Form of Incentive Stock Option Agreement under The Echo Nest Corporation 2007 Stock Option and Grant Plan, by and between The Echo Nest Corporation and optionees (filed as Exhibit 10.17 to Spotify Technology S.A.'s Form F-1 filed on February 28, 2018, File No. 333-223300, and incorporated herein by reference).
4.31	Terms and Conditions Governing Consultant Stock Options 2021/2026 in Spotify Technology S.A., dated April 1, 2021.
4.32	First Amendment to Terms and Conditions Governing Consultant Stock Options 2020/2025 and Terms and Conditions Governing Consultant Restricted Stock Units 2020/2025 in Spotify Technology S.A., December 2, 2020.
4.33	Terms and Conditions Governing Stock Options for Consultants 2020/2025 in Spotify Technology S.A., dated January 1, 2020 (filed as Exhibit 99.3 to Spotify Technology S.A.'s Form S-8 filed on December 30, 2019, File No. 333-235746, and incorporated herein by reference).
4.34	Terms and Conditions Governing Consultant Restricted Stock Units 2021/2026 in Spotify Technology S.A., dated April 1, 2021.
4.35	Terms and Conditions Governing Restricted Stock Units for Consultants 2020/2025 in Spotify Technology S.A., dated January 1, 2020 (filed as Exhibit 99.4 to Spotify Technology S.A.'s Form S-8 filed on December 30, 2019, File No. 333-235746, and incorporated herein by reference).
4.36	Form of Notice of Conversion of Echo Nest Stock Options, by and between Spotify Technology S.A. and certain employees (filed as Exhibit 10.18 to Spotify Technology S.A.'s Form F-1 filed on February 28, 2018, File No. 333-223300, and incorporated herein by reference).
4.37	Form of Restricted Consideration Agreement, by and between Spotify Technology S.A. and restricted sellers (filed as Exhibit 10.19 to Spotify Technology S.A.'s Form F-1 filed on February 28, 2018, File No. 333-223300, and incorporated herein by reference).
8.1	List of Subsidiaries.

12.1	Rule 13a-14(a)/15d-14(a) Certification of Chief Executive Officer.
12.2	Rule 13a-14(a)/15d-14(a) Certification of Chief Financial Officer.
13.1*	Certification of Chief Executive Officer Under Section 906 of the Sarbanes-Oxley Act of 2002, 18 U.S.C. Section 1350.
13.2*	Certification of Chief Financial Officer Under Section 906 of the Sarbanes-Oxley Act of 2002, 18 U.S.C. Section 1350.
15.1	Consent of Ernst & Young AB.
101	Interactive Data Files.

* Furnished herewith.

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SIGNATURES

The registrant hereby certifies that it meets all of the requirements for filing on Form 20-F and that it has duly caused and authorized the undersigned to sign this annual report on its behalf.

Spotify Technology S.A.

By:	/s/ Paul Vogel
Name:	Paul Vogel
Title:	Chief Financial Officer

Date: February 5, 2021

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Report of Independent Registered Public Accounting Firm

To the Shareholders and Board of Directors of Spotify Technology S.A.

Opinion on the Financial Statements
We have audited the accompanying consolidated statements of financial position of Spotify Technology S.A. (the Company) as of December 31, 2020 and 2019, the related consolidated statements of operations, comprehensive (loss)/income, changes in equity and cash flows for each of the three years in the period ended December 31, 2020, and the related notes (collectively referred to as the "consolidated financial statements"). In our opinion, the consolidated financial statements present fairly, in all material respects, the financial position of the Company at December 31, 2020 and 2019 and the results of its operations and its cash flows for each of the three years in the period ended December 31, 2020, in conformity with International Financial Reporting Standards as issued by the International Accounting Standards Board.

We have also audited, in accordance with the standards of the Public Company Accounting Oversight Board (United States) (PCAOB), the Company's internal control over financial reporting as of December 31, 2020, based on criteria established in Internal Control-Integrated Framework issued by the Committee of Sponsoring Organizations of the Treadway Commission (2013 framework), and our report dated February 5, 2021 expressed an unqualified opinion thereon.

Basis for Opinion
These financial statements are the responsibility of the Company's management. Our responsibility is to express an opinion on the Company's financial statements based on our audits. We are a public accounting firm registered with the PCAOB and are required to be independent with respect to the Company in accordance with the U.S. federal securities laws and the applicable rules and regulations of the Securities and Exchange Commission and the PCAOB.

We conducted our audits in accordance with the standards of the PCAOB. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the financial statements are free of material misstatement, whether due to error or fraud. Our audits included performing procedures to assess the risks of material misstatement of the financial statements, whether due to error or fraud, and performing procedures that respond to those risks. Such procedures included examining, on a test basis, evidence regarding the amounts and disclosures in the financial statements. Our audits also included evaluating the accounting principles used and significant estimates made by management, as well as evaluating the overall presentation of the financial statements. We believe that our audits provide a reasonable basis for our opinion.

Critical Audit Matter
The critical audit matter communicated below is a matter arising from the current period audit of the financial statements that was communicated or required to be communicated to the audit committee and that: (1) relates to accounts or disclosures that are material to the financial statements and (2) involved our especially challenging, subjective or complex judgments. The communication of the critical audit matter does not alter in any way our opinion on the consolidated financial statements, taken as a whole, and we are not, by communicating the critical audit matter below, providing a separate opinion on the critical audit matter or on the accounts or disclosures to which it relates.

Cost of revenue and rights holder liabilities

Description of the Matter

For the year ended December 31, 2020, the Company's cost of revenue was €5,865 million, trade payables was €434 million and accrued fees to rights holders was €1,265 million. As explained in Note 2 in the consolidated financial statements, cost of revenue and rights holder liabilities consist predominantly of royalty and distribution costs related to content streaming. Royalties are typically calculated using negotiated or statutory rates and are based on revenue, user/usage measures, or a combination of these. Calculation variables include the country, product, license holder and size of user base.

Auditing cost of revenue and rights holder liabilities was complex due to the number of royalty calculation variables in addition to the Company's complex IT systems and a significant volume of data. There was significant auditor judgment related to circumstances where rights holders have allowed the use of their content while negotiations of the terms and conditions or determination of statutory rates are ongoing and in circumstances where rights holders have several years to claim royalties for musical compositions.

How We Addressed the Matter in Our Audit

We obtained an understanding, evaluated the design and tested the operating effectiveness of controls over the Company's processes to determine cost of revenue and rights holder liabilities. For example, we tested controls specific to the calculation of royalties, calculation variables and IT systems. Additionally, we tested controls over estimates and judgments used to determine royalties where rights holders have allowed the use of their content while negotiations or determination of rates are ongoing, and where rights holders have several years to claim.

We performed the following audit procedures, among others, related to cost of revenue and rights holder liabilities: recalculated royalty cost amounts, tested calculation variables, tested claim data and performed sensitivity analyses. Additionally, we evaluated the appropriateness and consistency of management's estimates and assumptions, used to determine royalties where rights holders allowed the use of their content while negotiations or determination of rates are ongoing, and where rights holders have several years to claim.

/s/ Ernst & Young AB

We have served as the Company's auditor since 2015.

Stockholm, Sweden

February 5, 2021

Report of Independent Registered Public Accounting Firm

To the Shareholders and the Board of Directors of Spotify Technology S.A.

Opinion on Internal Control Over Financial Reporting
We have audited Spotify Technology S.A.'s internal control over financial reporting as of December 31, 2020, based on criteria established in Internal Control—Integrated Framework issued by the Committee of Sponsoring Organizations of the Treadway Commission (2013 framework) (the COSO criteria). In our opinion, Spotify Technology S.A. (the Company) maintained, in all material respects, effective internal control over financial reporting as of December 31, 2020, based on the COSO criteria.

We also have audited, in accordance with the standards of the Public Company Accounting Oversight Board (United States) (PCAOB), the consolidated statements of financial position of the Company as of December 31, 2020 and 2019, the related consolidated statements of operations, comprehensive (loss)/income, changes in equity and cash flows for each of the three years in the period ended December 31, 2020, and the related notes and our report dated February 5, 2021 expressed an unqualified opinion thereon.

Basis for Opinion
The Company's management is responsible for maintaining effective internal control over financial reporting and for its assessment of the effectiveness of internal control over financial reporting included in the accompanying Management's Annual Report on Internal Control over Financial Reporting. Our responsibility is to express an opinion on the Company's internal control over financial reporting based on our audit. We are a public accounting firm registered with the PCAOB and are required to be independent with respect to the Company in accordance with the U.S. federal securities laws and the applicable rules and regulations of the Securities and Exchange Commission and the PCAOB.

We conducted our audit in accordance with the standards of the PCAOB. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether effective internal control over financial reporting was maintained in all material respects.

Our audit included obtaining an understanding of internal control over financial reporting, assessing the risk that a material weakness exists, testing and evaluating the design and operating effectiveness of internal control based on the assessed risk, and performing such other procedures as we considered necessary in the circumstances. We believe that our audit provides a reasonable basis for our opinion.

Definition and Limitations of Internal Control Over Financial Reporting
A company's internal control over financial reporting is a process designed to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles. A company's internal control over financial reporting includes those policies and procedures that (1) pertain to the maintenance of records that, in reasonable detail, accurately and fairly reflect the transactions and dispositions of the assets of the company; (2) provide reasonable assurance that transactions are recorded as necessary to permit preparation of financial statements in accordance with generally accepted accounting principles, and that receipts and expenditures of the company are being made only in accordance with authorizations of management and directors of the company; and (3) provide reasonable assurance regarding prevention or timely detection of unauthorized acquisition, use, or disposition of the company's assets that could have a material effect on the financial statements.

Because of its inherent limitations, internal control over financial reporting may not prevent or detect misstatements. Also, projections of any evaluation of effectiveness to future periods are subject to the risk that controls may become inadequate because of changes in conditions, or that the degree of compliance with the policies or procedures may deteriorate.

/s/ Ernst & Young AB

Stockholm, Sweden

February 5, 2021

Consolidated statement of operations

for the year ended December 31
(in € millions, except share and per share data)

	Note	2020	2019	2018
Revenue	**4**	7,880	6,764	5,259
Cost of revenue		5,865	5,042	3,906
Gross profit		**2,015**	**1,722**	**1,353**
Research and development		837	615	493
Sales and marketing		1,029	826	620
General and administrative		442	354	283
		2,308	**1,795**	**1,396**
Operating loss		**(293)**	**(73)**	**(43)**
Finance income	**9**	94	275	455
Finance costs	**9**	(510)	(333)	(584)
Share in losses of associate		—	—	(1)
Finance income/(costs) - net		**(416)**	**(58)**	**(130)**
Loss before tax		**(709)**	**(131)**	**(173)**
Income tax (benefit)/expense	**10**	(128)	55	(95)
Net loss attributable to owners of the parent		**(581)**	**(186)**	**(78)**
Net loss per share attributable to owners of the parent				
Basic	**11**	(3.10)	(1.03)	(0.44)
Diluted	**11**	(3.10)	(1.03)	(0.51)
Weighted-average ordinary shares outstanding				
Basic	**11**	187,583,307	180,960,579	177,154,405
Diluted	**11**	187,583,307	180,960,579	181,210,292

The accompanying notes are an integral part of these consolidated financial statements.

Consolidated statement of comprehensive (loss)/income

for the year ended December 31
(in € millions)

	Note	2020	2019	2018
Net loss attributable to owners of the parent		**(581)**	**(186)**	**(78)**
Other comprehensive income/(loss):				
Items that may be subsequently reclassified to consolidated statement of operations (net of tax):				
Change in net unrealized gain or loss on short term investments	**18, 24**	4	5	1
Change in net unrealized gain or loss on cash flow hedging instruments	**18, 24**	1	(3)	(1)
Exchange differences on translation of foreign operations	**18**	(43)	4	(8)
Items not to be subsequently reclassified to consolidated statement of operations (net of tax):				
Gain/(loss) in the fair value of long term investments	**18, 24**	615	(117)	572
Other comprehensive income/(loss) for the year (net of tax)		**577**	**(111)**	**564**
Total comprehensive (loss)/income for the year attributable to owners of the parent		**(4)**	**(297)**	**486**

The accompanying notes are an integral part of these consolidated financial statements.

Consolidated statement of financial position

As at December 31
(in € millions)

	Note	2020	2019
Assets			
Non-current assets			
Lease right-of-use assets	**12**	444	489
Property and equipment	**13**	313	291
Goodwill	**14**	736	478
Intangible assets	**14**	97	58
Long term investments	**24**	2,277	1,497
Restricted cash and other non-current assets	**15**	78	69
Deferred tax assets	**10**	15	9
		3,960	**2,891**
Current assets			
Trade and other receivables	**16**	464	402
Income tax receivable	**10**	4	4
Short term investments	**24**	596	692
Cash and cash equivalents	**24**	1,151	1,065
Other current assets	**17**	151	68
		2,366	**2,231**
Total assets		**6,326**	**5,122**
Equity and liabilities			
Equity			
Share capital	**18**	—	—
Other paid in capital	**18**	4,583	4,192
Treasury shares	**18**	(175)	(370)
Other reserves	**18**	1,687	924
Accumulated deficit		(3,290)	(2,709)
Equity attributable to owners of the parent		**2,805**	**2,037**
Non-current liabilities			
Lease liabilities	**12**	577	622
Accrued expenses and other liabilities	**22**	42	20
Provisions	**23**	2	2
Deferred tax liabilities	**10**	—	2
		621	**646**
Current liabilities			
Trade and other payables	**21**	638	549
Income tax payable	**10**	9	9
Deferred revenue	**4**	380	319
Accrued expenses and other liabilities	**22**	1,748	1,438
Provisions	**23**	20	13
Derivative liabilities	**24**	105	111
		2,900	**2,439**
Total liabilities		**3,521**	**3,085**
Total equity and liabilities		**6,326**	**5,122**

The accompanying notes are an integral part of these consolidated financial statements.

Consolidated statement of changes in equity

(in € millions, except share data)

	Note	Number of ordinary shares outstanding	Share capital	Treasury shares	Other paid in capital	Other reserves	Accumulated deficit	Equity attributable to owners of the parent
Balance at January 1, 2018		**167,258,400**	**—**	**—**	**2,488**	**177**	**(2,427)**	**238**
Loss for the year		—	—	—	—	—	(78)	(78)
Other comprehensive income		—	—	—	—	564	—	564
Issuance of ordinary shares		5,776,920	—	—	4	—	—	4
Repurchases of ordinary shares	**18**	(6,427,271)	—	(77)	—	—	—	(77)
Issuance of shares upon exercise of stock options and restricted stock units	**18**	4,816,072	—	—	163	—	—	163
Restricted stock units withheld for employee taxes		—	—	—	—	(2)	—	(2)
Issuance of shares upon exchange of Convertible Notes	**20**	9,431,960	—	—	1,146	—	—	1,146
Share-based compensation	**19**	—	—	—	—	88	—	88
Income tax impact associated with share-based payments	**10**	—	—	—	—	48	—	48
Balance at December 31, 2018		**180,856,081**	**—**	**(77)**	**3,801**	**875**	**(2,505)**	**2,094**
Cumulative effect adjustment in connection with the adoption of IFRS 16	**12**	—	—	—	—	—	(18)	(18)
Balance at January 1, 2019		**180,856,081**	**—**	**(77)**	**3,801**	**875**	**(2,523)**	**2,076**
Loss for the year		—	—	—	—	—	(186)	(186)
Other comprehensive loss		—	—	—	—	(111)	—	(111)
Repurchases of ordinary shares		(3,679,156)	—	(433)	—	—	—	(433)
Issuance of shares upon exercise of stock options and restricted stock units	**18**	3,557,405	—	140	14	—	—	154
Issuance of shares upon exercise of, or net settlement of, warrants	**24**	3,591,627	—	—	377	—	—	377
Issuance of share-based compensation in conjunction with business combinations	**5**	—	—	—	—	13	—	13
Restricted stock units withheld for employee taxes		—	—	—	—	(6)	—	(6)
Share-based compensation	**19**	—	—	—	—	127	—	127
Income tax impact associated with share-based payments	**10**	—	—	—	—	26	—	26
Balance at December 31, 2019		**184,325,957**	**—**	**(370)**	**4,192**	**924**	**(2,709)**	**2,037**
Loss for the year		—	—	—	—	—	(581)	(581)
Other comprehensive income		—	—	—	—	577	—	577
Issuance of ordinary shares	**26**	5,038,200	—	—	—	—	—	—
Repurchases of ordinary shares	**18**	(5,038,200)	—	—	—	—	—	—
Issuance of shares upon exercise of stock options, restricted stock units, and contingently issuable shares	**18**	4,802,847	—	195	124	—	—	319
Issuance of shares upon exercise of, or net settlement of, warrants	**24**	1,084,043	—	—	267	—	—	267
Restricted stock units withheld for employee taxes		—	—	—	—	(29)	—	(29)
Share-based compensation	**19**	—	—	—	—	181	—	181
Income tax impact associated with share-based payments	**10**	—	—	—	—	34	—	34
Balance at December 31, 2020		**190,212,847**	**—**	**(175)**	**4,583**	**1,687**	**(3,290)**	**2,805**

The accompanying notes are an integral part of these consolidated financial statements.

Consolidated statement of cash flows

for the year ended December 31
(in € millions)

	Note	2020	2019	2018
Operating activities				
Net loss		(581)	(186)	(78)
Adjustments to reconcile net loss to net cash flows				
Depreciation of property and equipment and lease right-of-use assets	**12 , 13**	86	71	21
Amortization of intangible assets	**14**	25	16	11
Share-based compensation expense	**19**	176	122	88
Finance income	**9**	(94)	(275)	(455)
Finance costs	**9**	510	333	584
Income tax (benefit)/expense	**10**	(128)	55	(95)
Other		7	13	8
Changes in working capital:				
Increase in trade receivables and other assets		(187)	(27)	(61)
Increase in trade and other liabilities		425	454	291
Increase in deferred revenue		73	59	38
Increase/(decrease) in provisions		6	(35)	(17)
Interest paid on lease liabilities		(55)	(37)	—
Interest received		4	14	18
Income tax paid		(8)	(4)	(9)
Net cash flows from operating activities		**259**	**573**	**344**
Investing activities				
Business combinations, net of cash acquired	**5**	(336)	(331)	(9)
Purchases of property and equipment	**13**	(78)	(135)	(125)
Purchases of short term investments	**24**	(1,354)	(901)	(1,069)
Sales and maturities of short term investments	**24**	1,421	1,163	1,226
Change in restricted cash	**15**	2	2	(10)
Other		(27)	(16)	(35)
Net cash flows used in investing activities		**(372)**	**(218)**	**(22)**
Financing activities				
Payments of lease liabilities	**12**	(24)	(17)	—
Lease incentives received	**12**	20	15	—
Repurchases of ordinary shares	**18**	—	(438)	(72)
Proceeds from exercise of stock options	**19**	319	154	163
Proceeds from exercise of warrants	**24**	—	74	—
Proceeds from issuance of warrants	**24**	—	15	—
Other		(30)	(6)	1
Net cash flows from/(used in) financing activities		**285**	**(203)**	**92**
Net increase in cash and cash equivalents		**172**	**152**	**414**
Cash and cash equivalents at January 1	**24**	1,065	891	477
Net foreign exchange (losses)/gains on cash and cash equivalents		(86)	22	—
Cash and cash equivalents at December 31,	**24**	**1,151**	**1,065**	**891**
Supplemental disclosure of cash flow information				
Non-cash investing and financing activities				
Deferred consideration liability recognized in conjunction with business combination	**5**	32	2	—
Lease right-of-use assets obtained in exchange for lease liabilities	**12**	29	136	—
Purchases of property and equipment in trade and other payables	**13**	16	14	23
Issuance of shares upon exercise of, or effective net settlement of, warrants	**24**	267	303	—
Issuance of shares upon exchange of Convertible Notes	**24**	—	—	1,145

The accompanying notes are an integral part of these consolidated financial statements.

Notes to the 2020 consolidated financial statements

1. Corporate information

Spotify Technology S.A. (the "Company" or "parent") is a public limited company incorporated and domiciled in Luxembourg. The Company's registered office is 42-44 avenue de la Gare, L1610, Luxembourg, Grand Duchy of Luxembourg.

The principal activity of the Company and its subsidiaries (the "Group") is audio streaming. The Group's premium service ("Premium Service") provides users with unlimited online and offline high-quality streaming access to its catalog of music and podcasts. The Premium Service offers a music listening experience without commercial breaks. The Group's ad-supported service ("Ad-Supported Service," and together with the Premium Service, the "Service") has no subscription fees and generally provides users with limited on-demand online access to the catalog of music and unlimited online access to the catalog of podcasts. The Group depends on securing content licenses from a number of major and minor content owners and other rights holders in order to provide its service.

2. Summary of significant accounting policies

The principal accounting policies applied in the preparation of these consolidated financial statements are set out below. These policies have been consistently applied to all the years presented, unless otherwise stated.

(a) Basis of preparation

The consolidated financial statements of Spotify Technology S.A. comply with International Financial Reporting Standards ("IFRS") as issued by the International Accounting Standards Board ("IASB") and have been prepared on a historical cost basis, except for securities, long term investments, convertible senior notes ("Convertible Notes"), derivative financial instruments, and contingent consideration, which have been measured at fair value, and lease liabilities, which are measured at present value.

The preparation of the consolidated financial statements in conformity with IFRS requires the application of certain critical accounting estimates and assumptions. It also requires management to exercise its judgment in the process of applying the accounting policies. The areas involving a greater degree of judgment or complexity, or areas in which assumptions and estimates are significant to the consolidated financial statements, are disclosed in Note 3.

(b) Basis of consolidation

Subsidiaries are all entities over which the Group has control. The Group controls an entity when the Group is exposed to, or has rights to, variable returns from its involvement with the entity and has the ability to affect those returns through its power over the entity. Subsidiaries are consolidated from the date on which control is transferred to the Group. They are deconsolidated from the date that control ceases.

(c) Foreign currency translation

Functional and reporting currency

Items included in the financial statements of each of the Group's entities are measured using the currency of the primary economic environment in which the entity operates. The consolidated financial statements are presented in Euro, which is the Group's reporting currency.

Transactions and balances

Foreign currency transactions are translated into the functional currency using the exchange rates prevailing at the dates of the transactions. Foreign exchange gains and losses resulting from the settlement of such transactions and from the translation of monetary assets and liabilities denominated in foreign currencies at year-end exchange rates are recognized in the consolidated statement of operations within finance income or finance costs.

Group companies

The results and financial position of all the Group entities that have a functional currency different from the Group's reporting currency are translated into Euro as follows:

- Assets and liabilities are translated at the closing rate at the reporting date;

- Income and expenses for each statement of operation are translated at average exchange rates; and
- All resulting exchange differences are recognized in other comprehensive income/(loss).

Goodwill and fair value adjustments arising on the acquisition of a foreign operation are treated as assets and liabilities of the operation and translated at the closing rate at each reporting date.

(d) Revenue recognition

Premium revenue

The Group generates subscription revenue from the sale of the Premium Service in which customers can listen on-demand and offline. Premium Services are sold directly to end users and through partners who are generally telecommunications companies that bundle the subscription with their own services or collect payment for the stand-alone subscriptions from their end customers. The Group satisfies its performance obligation, and revenue from these services is recognized, on a straight-line basis over the subscription period. Typically, Premium Services are paid for monthly in advance.

Premium partner subscription revenue is based on a per-subscriber rate in a negotiated partner agreement. Under these arrangements, a premium partner may bundle the Premium Service with its existing product offerings or offer the Premium Service as an add-on. Payment is remitted to the Group through the premium partner. The Group assesses the facts and circumstances, including whether the partner is acting as a principal or agent, of all partner revenue arrangements and then recognizes revenues either gross or net. Premium partner services, whether recognized gross or net, have one material performance obligation, that being the delivery of the Premium Service.

Additionally, the Group bundles the Premium Service with third-party services and products. In bundle arrangements where the Group has multiple performance obligations, the transaction price is allocated to each performance obligation based on the relative stand-alone selling price. The Group generally determines stand-alone selling prices based on the prices charged to customers. For each performance obligation within the bundle, revenue is recognized either on a straight-line basis over the subscription period or at a point in time when control of the service or product is transferred to the customer.

Ad-Supported revenue

The Group's advertising revenue is primarily generated through display, audio, and video advertising delivered through advertising impressions and podcast downloads. The Group enters into arrangements with advertising agencies that purchase advertising on its platform on behalf of the agencies' clients, or enters into arrangements directly with advertisers. These advertising arrangements are typically sold on a cost-per-thousand basis and are evidenced by an Insertion Order ("IO"), a submission of order placements through a self-serve platform that includes the online acceptance of terms and conditions, or contracts that specify the terms of the arrangement such as the type of ad product, pricing, insertion dates, and number of impressions in a stated period. Revenue is recognized over time based on the number of impressions delivered. The Group also may offer cash rebates to advertising agencies based on the volume of advertising inventory purchased. These rebates are estimated based on expected performance and historical data and result in a reduction of revenue recognized.

Additionally, the Group generates Ad-Supported revenue through arrangements with certain advertising exchange platforms to distribute advertising inventory for purchase on a cost-per-thousand basis through their automated exchange. Revenue is recognized over time when impressions are delivered on the platform.

(e) Advertising credits

Advertising credits that are not transferable are issued to certain rights holders and allow them to include advertisement on the Ad-Supported Service that promote their artists and the Spotify service, such as the availability of a new single or album on Spotify. These are issued in conjunction with the Group's royalty arrangements for nil consideration. There is no revenue recognized as the advertising credits are mutually beneficial to both the rights holders and the Group and do not meet the definition of a revenue contract under IFRS 15, *Revenue from Contracts with Customers.*

(f) Business combinations

Business combinations are accounted for using the acquisition method. Identifiable assets acquired and liabilities assumed are measured initially at their fair values at the acquisition date. The excess of the consideration transferred, and the acquisition-date fair value of any previous equity interest in the acquiree, over the fair value of the identifiable net assets acquired is recognized as goodwill.

In some business combinations, the Group will replace awards held by the employees of the acquiree with its share-based compensation awards, whereby the vesting of the Group's replacement awards is contingent on continued employment with the Group. Replacements of share-based compensation awards are accounted for as modifications of the acquiree's existing share-based compensation awards. The value of the replaced acquiree award at acquisition date that relates to pre-combination service is accounted for as part of the consideration transferred. The excess of the value of the Group's replacement award over the amount attributed to pre-combination services is recognized in the consolidated statement of operations, together with a corresponding credit to other reserves in equity, over the period in which the service conditions are fulfilled.

Acquisition-related costs, other than those incurred for the issuance of debt or equity instruments, are charged to the consolidated statement of operations as they are incurred.

(g) Cost of revenue

Cost of revenue consists predominantly of royalty and distribution costs related to content streaming. The Group incurs royalty costs paid to record labels, music publishers, and other rights holders for the right to stream music to the Group's users. Royalties are typically calculated using negotiated rates in accordance with license agreements and are based on either subscription and advertising revenue earned, user/usage measures, or a combination of these. The determination of the amount of the rights holders' liability requires complex IT systems and a significant volume of data and is subject to a number of variables, including the revenue recognized, the type of content streamed and the country in which it is streamed, the product tier such content is streamed on, identification of the appropriate license holder, size of user base, ratio of Ad-Supported Users to Premium Subscribers, and any applicable advertising fees and discounts, among other variables. Some rights holders have allowed the use of their content on the platform while negotiations of the terms and conditions or determination of statutory rates are ongoing. In such situations, royalties are calculated using estimated rates. In certain jurisdictions, rights holders have several years to claim royalties for musical compositions, and therefore, estimates of the royalties payable are made until payments are made. The Group has certain arrangements whereby royalty costs are paid in advance or are subject to minimum guaranteed amounts. An accrual is established when actual royalty costs to be incurred during a contractual period are expected to fall short of the minimum guaranteed amounts. For minimum guarantee arrangements, for which the Group cannot reliably predict the underlying expense, the Group will expense the minimum guarantee on a straight-line basis over the term of the arrangement. The Group also has certain royalty arrangements where the Group would have to make additional payments if the royalty rates were below those paid to other similar licensors (most favored nation clauses). For rights holders with this clause, a comparison is done of royalties incurred to date plus estimated royalties payable for the remainder of the period to estimates of the royalties payables to other appropriate rights holders, and the shortfall, if any, is recognized on a straight-line basis over the period of the applicable most favored nation clause. An accrual and expense is recognized when it is probable that the Group will make additional royalty payments under these terms. The expense related to these accruals is recognized in cost of revenue. Cost of revenue also includes credit card and payment processing fees for subscription revenue, customer service, certain employee compensation and benefits, cloud computing, streaming, facility, and equipment costs, as well as the amortization of podcast content assets over their useful economic life, which starts at the release of each episode. In most cases, amortization is on an accelerated basis.

(h) Research and development expenses

Research and development expenses are primarily comprised of costs incurred for development of products related to the Group's platform and service, as well as new advertising products and improvements to the Group's mobile app, desktop, and streaming services. The costs incurred include related employee compensation and benefits, facility costs, IT costs and consulting costs.

(i) Sales and marketing expenses

Sales and marketing expenses are primarily comprised of employee compensation and benefits, public relations, branding, consulting expenses, customer acquisition costs, advertising, live events and trade shows, amortization of trade name and podcast publisher relationship intangible assets, the cost of working with record labels and artists to promote the availability of new releases on the Group's platform, and the costs of providing free trials of the Premium Service. Expenses included in the costs of providing free trials are primarily derived from per user royalty fees determined in accordance with the rights holder agreements.

(j) General and administrative expenses

General and administrative expenses are comprised primarily of employee compensation and benefits for functions such as finance, accounting, analytics, legal, human resources, consulting fees, and other costs including facility and equipment costs, officers' liability insurance, director fees, and fair value adjustments on contingent consideration.

(k) Income tax

The tax expense for the period comprises current and deferred tax. Tax is recognized in the consolidated statement of operations except to the extent that it relates to a business combination, or items recognized directly in equity or in other comprehensive income.

(i) *Current tax*

Current tax comprises the expected tax payable or receivable on the taxable income or loss for the year and any adjustment to tax payable or receivable in respect of previous years. It is measured using tax rates enacted or substantively enacted at the reporting date.

(ii) *Deferred tax*

Deferred tax is recognized in respect of temporary differences between the carrying amounts of assets and liabilities for financial reporting purposes and the amounts used for taxation purposes. Deferred tax is not recognized for:

- Temporary differences on the initial recognition of assets or liabilities in a transaction that is not a business combination and that affects neither accounting nor taxable profit or loss;
- Temporary differences related to investments in subsidiaries, and associates to the extent that the Group is able to control the timing of the reversal of the temporary differences, and it is probable that they will not reverse in the foreseeable future; and
- Taxable temporary differences arising on the initial recognition of goodwill.

Deferred tax assets are recognized for unused tax losses, unused tax credits, and deductible temporary differences to the extent that it is probable that future taxable profits will be available, against which they can be used. Deferred tax assets are reviewed at each reporting date and are reduced to the extent that it is no longer probable that the related tax benefit will be realized.

Deferred tax is measured at the tax rates that are expected to be applied to temporary differences when they reverse, using tax rates enacted or substantively enacted at the reporting date. The measurement of deferred tax reflects the tax consequences that would follow from the manner in which the Group expects, at the reporting date, to recover or settle the carrying amount of its assets and liabilities.

Deferred tax assets and liabilities are offset only if certain criteria are met, such as when there is a legally enforceable right to offset.

(l) Leases

Policy applicable before January 1, 2019

At inception of an arrangement, the Group determines whether the arrangement is or contains a lease. The Group leases certain items of property and equipment. Leases in which substantially all the risks and rewards of ownership are not transferred to the Group as lessee are classified as operating leases. Payments made under operating leases (net of any incentives received from the lessor) are charged to the consolidated statement of operations on a straight-line basis over the period of the leases.

Leases of property and equipment where the Group has substantially all the risks and rewards of ownership are classified as finance leases. Finance leases are capitalized at the lease's commencement at lower of the fair value of the leased property and the present value of the minimum lease payments. Each lease payment is allocated between the repayment of the liability and finance charges. The corresponding lease obligations, net of finance charges, are included in borrowings. The interest element of the finance cost is charged to the consolidated statement of operations over the lease period so as to produce

a constant periodic rate of interest on the remaining balance of the liability for each period. The property and equipment acquired under finance leases is depreciated over the shorter of the useful life of the asset and the lease term.

Policy applicable from January 1, 2019

At inception of a contract, the Group assesses whether a contract is, or contains, a lease. A contract is, or contains, a lease if the contract conveys the right to control the use of an identified asset for a period of time in exchange for consideration. To assess whether a contract conveys the right to control the use of an identified asset, the Group assesses whether:

- The contract involves the use of an identified asset – this may be specified explicitly or implicitly, and should be physically distinct or represent substantially all of the capacity of a physically distinct asset. If the supplier has a substantive substitution right, then the asset is not identified;
- The Group has the right to obtain substantially all of the economic benefits from the use of the asset throughout the period of use; and
- The Group has the right to direct the use of the asset. The Group has this right when it has the decision-making rights that are most relevant to changing how and for what purpose the asset is used.

At inception or on reassessment of a contract that contains a lease component, the Group allocates the consideration in the contract to each lease component on the basis of their relative stand-alone prices.

As a Lessee

The Group recognizes a right-of-use asset and a lease liability at the lease commencement date. The right-of-use asset is initially measured at cost, which comprises the initial amount of the lease liability adjusted for any lease payments made at or before the commencement date, plus any initial direct costs incurred and an estimate of costs to dismantle and remove the underlying asset or to restore the underlying asset or the site on which it is located, less any lease incentives received prior to the commencement date. Any costs related to the removal and restoration of leasehold improvements, which meet the definition of property, plant and equipment under IAS 16 *Property Plant and Equipment* are assessed under IAS 37 and are not within the scope of IFRS 16.

The lease term is determined based on the non-cancellable period for which the Group has the right to use an underlying asset. The lease term is adjusted, if applicable, for periods covered by extension and termination options to the extent that the Group is reasonably certain to exercise them.

The right-of-use asset is subsequently depreciated using the straight-line method from the commencement date to the end of the lease term, which is considered the appropriate useful life of these assets. In addition, the right-of-use asset is reduced by impairment losses, if any, and adjusted for certain remeasurements of the lease liability, to the extent necessary.

The lease liability is initially measured at the present value of the lease payments, net of lease incentives receivable, that are not paid at the commencement date, discounted using an incremental borrowing rate if the rate implicit in the lease arrangement is not readily determinable.

Lease payments included in the measurement of the lease liability comprise fixed payments, including in-substance fixed payments and variable lease payments that depend on an index or a rate, initially measured using the index or rate as at the commencement date.

The lease liability is subsequently increased to reflect accretion of interest and reduced for lease payments made. It is remeasured when there is a change in future lease payments arising from a change in an index or rate, lease term, or if the Group changes its assessment of whether it will exercise an extension or termination option. When the lease liability is remeasured in this way, a corresponding adjustment is made to the carrying amount of the right-of-use asset, or is recorded in profit or loss if the carrying amount of the right-of-use asset has been reduced to zero.

The Group leases certain properties under non-cancellable lease agreements that relate to office space. The expected lease terms are between one and fourteen years.

The Group does not currently act in the capacity of a lessor.

Short-term leases and lease of low-value assets

The Group has elected not to recognize right-of-use assets and lease liabilities for short-term leases that have a lease term of 12 months or less and leases of low-value assets, including certain IT Equipment. The Group recognizes the lease payments associated with these leases as an expense on a straight-line basis over the lease term.

(m) Property and equipment

Property and equipment are stated at historical cost less accumulated depreciation and any accumulated impairment losses. Historical cost includes any expenditure that is directly attributable to bringing the asset to the location and condition necessary for it to be capable of operating in the manner intended by the Group.

The Group adds to the carrying amount of an item of property and equipment the cost of replacing parts of such an item if the replacement part is expected to provide incremental future benefits to the Group. All repairs and maintenance are charged to the consolidated statement of operations during the period in which they are incurred.

After assets are placed into service, depreciation is charged so as to allocate the cost of assets less their residual value over their estimated useful lives, using the straight-line method as follows:

- Property and equipment: 3 to 5 years
- Leasehold improvements: shorter of the lease term or useful life

The assets' residual values, useful lives, and depreciation methods are reviewed annually and adjusted prospectively if there is an indication of a significant change. An asset's carrying amount is written down immediately to its recoverable amount if the asset's carrying amount is greater than its estimated recoverable amount.

Gains and losses on disposals are determined by comparing the proceeds with the carrying amount and are recognized in the consolidated statement of operations when the asset is derecognized.

(n) Intangible assets

Acquired intangible assets other than goodwill comprise acquired developed technology, trade names, podcast publisher relationships, and patents. At initial recognition, intangible assets acquired in a business combination are recognized at their fair value as of the date of acquisition. Following initial recognition, intangible assets are carried at cost less accumulated amortization and impairment losses.

The Group recognizes internal development costs as intangible assets only when the following criteria are met: the technical feasibility of completing the intangible asset exists, there is an intent to complete and an ability to use or sell the intangible asset, the intangible asset will generate probable future economic benefits, there are adequate resources available to complete the development and to use or sell the intangible asset, and there is the ability to reliably measure the expenditure attributable to the intangible asset during its development.

Intangible assets with finite lives are typically amortized on a straight-line basis over their estimated useful lives, typically 3 to 5 years for technology, 3 to 8 years for trade names and trademarks, and 10 years for podcast publisher relationships, and are assessed for impairment whenever there is an indication that the intangible asset may be impaired. The amortization period and the amortization method for an intangible asset are reviewed at least annually. Changes in the expected useful life or the expected pattern of consumption of future economic benefits embodied in the asset are accounted for by changing the amortization period or method, as appropriate, and are treated as changes in accounting estimates. The amortization of intangible assets is recognized in the consolidated statement of operations in the expense category consistent with the function of the intangible assets.

(o) Goodwill

Goodwill is the excess of the consideration transferred over the net identifiable assets acquired and liabilities assumed. Goodwill is tested annually for impairment, or more regularly if certain indicators are present. For the purpose of impairment testing, goodwill acquired in a business combination is allocated to each of the operating segments that are expected to benefit from the synergies of the combination and represent the lowest level at which the goodwill is monitored for internal management purposes. Goodwill is evaluated for impairment by comparing the recoverable amount of the Group's operating segments to the carrying amount of the operating segments to which the goodwill relates. If the recoverable amount is less than the carrying amount an impairment charge is determined.

The recoverable amount of the operating segments is based on fair value less costs of disposal. The Group determines the fair value of the operating segments using a combination of a discounted cash flow analysis and a market-based approach.

The Group believes reasonable estimates and judgments have been used in assessing the recoverable amounts.

(p) Impairment of non-financial assets

Assets that are subject to depreciation or amortization are reviewed for impairment whenever events or changes in circumstances indicate that the carrying value may not be recoverable. An impairment loss is recognized in the consolidated statement of operations consistent with the function of the assets, for the amount by which the asset's carrying amount exceeds its recoverable amount. The recoverable amount is the higher of an asset's fair value less costs of disposal and value in use. For the purposes of assessing impairment, assets are grouped at the lowest levels for which there are largely independent cash inflows. Prior impairments of non-financial assets (other than goodwill) are reviewed for possible reversal each reporting period.

(q) Financial instruments

(i) Financial assets

Initial recognition and measurement

The Group's financial assets are comprised of cash and cash equivalents, short term investments, trade and other receivables, derivative assets, long term investments, restricted cash, and other non-current assets. All financial assets are recognized initially at fair value plus transaction costs that are attributable to the acquisition of the financial asset. Purchases and sales of financial assets are recognized on the settlement date; the date that the Group receives or delivers the asset. Receivables are non-derivative financial assets, other than short term and long term investments described below, with fixed or determinable payments that are not quoted in an active market. They are included in current assets except for those with maturities greater than 12 months after the reporting period.

For more information on receivables, refer to Note 16.

Short term investments are primarily comprised of debt instruments carried at fair value through other comprehensive income. The securities in this category are those that are intended to be held for an indefinite period of time and that may be sold in response to needs for liquidity or in response to changes in the market conditions (therefore not recognized at amortized cost). These meet both the hold to collect and sell business model and solely payments of principal and interest contractual cash flows tests under IFRS 9 *Financial Instruments*. These are classified as current assets.

Long term investments are comprised of equity instruments carried at fair value through other comprehensive income based on the irrevocable election made at initial recognition under IFRS 9 *Financial Instruments*. The securities within this category are intended to be held for an indefinite period of time and for strategic investment purposes. These are neither held for trading nor contingent consideration recognized by an acquirer in a business combination. These are classified as non-current assets. The Group's primary long term investment is its equity investment in Tencent Music Entertainment Group ("TME").

Subsequent measurement

After initial measurement, short term investments are primarily measured at fair value with unrealized gains or losses recognized in other comprehensive income and credited in other reserves within equity until the investment is derecognized, at which time, the cumulative gain or loss is recognized in finance income/costs. Interest earned whilst holding the short term investments is reported as interest income using the effective interest method. Interest income and foreign exchange revaluation are recognized in the statement of operations in the same manner as all other financial assets.

After initial measurement, long term investments are measured at fair value with unrealized gains or losses, including any related foreign exchange impacts, recognized in other comprehensive income and credited in other reserves within equity without recognizing fair value changes to profit and loss upon derecognition. Dividends received are recognized in the consolidated statement of operations in finance income.

Derecognition

Financial assets are derecognized when the rights to receive cash flows from the asset have expired.

Impairment of financial assets

The Group assesses at each reporting date whether there is any evidence that a financial asset or a group of financial assets is impaired, primarily its trade receivables and short term investments. The Group assesses impairment for its financial assets, excluding trade receivables, using the general expected credit losses model. Under this model, the Group calculates the allowance for credit losses by considering on a discounted basis, the cash shortfalls it would incur in various default scenarios for prescribed future periods and multiplying the shortfalls by the probability of each scenario occurring. The allowance on the financial asset is the sum of these probability-weighted outcomes.

For the Group's short term investments, the Group applies the low credit risk simplification as it does not believe there to be any credit risk related to these assets given the credit quality ratings required by the Group's investment policy. At every reporting date, the Group evaluates whether a particular debt instrument is considered to have low credit risk using all supportable information.

The Group's long term investments are not assessed for impairment due to the irrevocable election made under IFRS 9 *Financial Instruments* as stated above.

The Group uses the simplified approach for measuring impairment for its trade receivables as these financial assets do not have a significant financing component as defined under IFRS 15, *Revenue from Contracts with Customers*. Therefore, the Group does not determine if the credit risk for these instruments has increased significantly since initial recognition. Instead, a loss allowance is recognized based on lifetime expected credit losses at each reporting date. Impairment losses and subsequent reversals are recognized in profit or loss and is the amount required to adjust the loss allowance at the reporting date to the amount that is required to be recognized based on the aforementioned policy. The Group has established a provision matrix that is based on its historical credit loss experiences, adjusted for forward-looking factors specific to the debtors and the economic environment. The carrying amount of the asset is reduced through the use of an allowance account and the amount of the loss is recognized in the consolidated statement of operations.

(ii) Financial liabilities

Initial recognition and measurement

The Group's financial liabilities are comprised of trade and other payables, lease liabilities, derivative liabilities (warrants and instruments designated for hedging), and other liabilities, including contingent consideration, Prior to April 3, 2018, financial liabilities also included Convertible Notes and contingent options. All financial liabilities except lease liabilities are recognized initially at fair value and, in the case of Convertible Notes, net of directly attributable transaction costs.

The Group accounted for the Convertible Notes in accordance with IAS 39, *Financial Instruments: Recognition and Measurement*, 'fair value option' and IFRS 9 *Financial Instruments* as fair value through profit and loss. Under these approaches, the Convertible Notes were accounted for in their entirety at fair value, with any change in fair value after initial measurement being recorded in the consolidated statement of operations and the transaction costs were effectively immediately expensed.

The Group accounts for the warrants as a financial liability measured at fair value through profit or loss. In accordance with IAS 32, *Financial Instruments: Presentation*, the Group determined that the warrants were precluded from equity classification, because while they contain no contractual obligation to deliver cash or other financial instruments to the holders other than the Company's own shares, the exercise prices of the warrants are in US$ and not the Company's functional currency and the Group allows for net settlement, which enables settlement for a variable number of the Company's ordinary shares. Therefore, the warrants do not meet the requirements that they be settled by the issuer exchanging a fixed amount of cash or another financial asset for a fixed number of its own equity instruments.

The group accounts for contingent consideration as a financial liability measured at fair value through profit or loss. The fair value of the contingent consideration is presented as a component of accrued expenses and other liabilities on the consolidated statement of financial position. Changes to the fair value of the contingent consideration are recorded as operating expenses within general and administrative expenses.

Subsequent measurements

Other financial liabilities

After initial recognition, payables are subsequently measured at amortized cost using the effective interest method. The effective interest method amortization is included in finance costs in the consolidated statement of operations. Gains and losses are recognized in the consolidated statement of operations when the liabilities are derecognized.

Payables are classified as current liabilities unless the Group has an unconditional right to defer settlement of the liability for at least 12 months after the reporting date.

Financial liabilities at fair value through profit or loss

After initial recognition, financial liabilities at fair value through the profit or loss are subsequently re-measured at fair value at the end of each reporting period with changes in fair value recognized in finance income or finance costs in the consolidated statement of operations.

Derecognition

Financial liabilities are derecognized when the obligation under the liability is discharged, cancelled, or expires.

(iii) Fair value measurements

For financial assets and liabilities measured at fair value on a recurring basis, fair value is the price the Group would receive to sell an asset or pay to transfer a liability in an orderly transaction with a market participant at the measurement date. In the absence of active markets for identical assets or liabilities, such measurements involve developing assumptions based on market observable data and, in the absence of such data, internal information that is consistent with what market participants would use in a hypothetical transaction that occurs at the measurement date. Observable inputs reflect market data obtained from independent sources, while unobservable inputs reflect the Group's market assumptions. All assets and liabilities for which fair value is measured or disclosed in the consolidated financial statements are categorized within the fair value hierarchy, are described as follows, based on the lowest level input that is significant to the fair value measurement as a whole:

- Level 1: quoted (unadjusted) prices in active markets for identical assets or liabilities;
- Level 2: other techniques for which inputs are based on quoted prices for identical or similar instruments in markets that are not active, quoted prices for similar instruments in active markets, and model-based valuation techniques for which all significant assumptions are observable in the market or can be corroborated by observable market data for substantially the full term of the asset or liability;
- Level 3: techniques which use inputs that have a significant effect on the recognized fair value that require the Group to use its own assumptions about market participant assumptions.

The Group maintains policies and procedures to determine the fair value of financial assets and liabilities using what it considers to be the most relevant and reliable market participant data available. It is the Group's policy to maximize the use of observable inputs in the measurement of its Level 3 fair value measurements. To the extent observable inputs are not available, the Group utilizes unobservable inputs based upon the assumptions market participants would use in valuing the asset or liability. In determining the fair value of financial assets and liabilities employing Level 3 inputs, the Group considers such factors as the current interest rate, equity market, currency and credit environments, expected future cash flows, the probability of certain future events occurring, and other published data. The Group performs a variety of procedures to assess the reasonableness of its fair value determinations including the use of third parties.

(iv) ***Foreign exchange forward contracts***

The Group designates certain foreign exchange forward contracts as cash flow hedges when all the requirements in IFRS 9 *Financial Instruments* are met. The Group recognizes these foreign exchange forward contracts as either assets or liabilities on the statement of financial position and are measured at fair value at each reporting period. Assets and liabilities are offset and the net amount is presented in the statement of financial position when the Group has a legally enforceable right to set off the recognized amounts and intends to settle on a net basis. The asset and liability positions of the foreign exchange forward contracts are included in other current assets and derivative liabilities on the consolidated statement of financial position, respectively. The Group reflects the gain or loss on the effective portion of a cash flow hedge as a component of equity and subsequently reclassifies cumulative gains and losses to revenues or cost of revenues, depending on the risk hedged, when the hedged transactions impact the statement of operations. If the hedged transactions become probable of not occurring, the corresponding amounts in other reserves are immediately reclassified to finance income or costs. Foreign exchange forward contracts that do not meet the requirements in IFRS 9 *Financial Instruments* to be designated as a cash flow hedge, are classified as derivative instruments not designated for hedging. The Group measures these instruments at fair value with changes in fair value recognized in finance income or costs. Refer to Note 24.

(r) Podcast content assets

The Group incurs costs to acquire, license, produce or commission podcasts primarily for inclusion on the Service, with some titles distributed more broadly. We recognize podcast content assets as current assets in the consolidated statement of financial position and related cash flows are presented as operating cash flows. Fees, including license fees, and the direct costs of production including employee compensation and production overheads, external production services and participation minimum guarantees are capitalized. We often enter into multi-year commitments, however, the period between payments and receipt of content is typically less than a year and no borrowing costs are included in direct costs.

Amortization of podcast content assets is recorded in cost of revenue over the shorter of the estimated useful economic life or the license period (if relevant), and begins at the release of each episode. The economic life and expected amortization profile of podcast content assets is estimated by management based on historical listening patterns and is evaluated on an ongoing basis. The Group's podcast content assets are generally expected to be consumed in less than three years, and typically, on an accelerated basis, as we expect more upfront listening in most cases.

(s) Cash and cash equivalents and restricted cash

Cash and cash equivalents comprise cash on deposit at banks and on hand and highly liquid investments including money market funds with maturities of three months or less at the date of purchase that are not subject to restrictions. Assets in money market funds, whose contractual cash flows do not represent solely payments of interest and principal, are measured at fair value with gains and losses arising from changes in fair value included in the consolidated statement of operations. See Note 24.

Cash deposits that have restrictions governing their use are classified as restricted cash, current or non-current, based on the remaining length of the restriction. See Note 15.

(t) Short term investments

The Group invests in a variety of instruments, such as commercial paper, corporate debt securities, collateralized reverse purchase agreements, and government and agency debt securities. Part of these investments are held in short duration fixed income portfolios. The average duration of these instruments is less than two years. All investments are governed by an investment policy and are held in highly-rated counterparties. Separate credit limits are assigned to each counterparty in order to minimize risk concentration.

These investments are classified as debt instruments and are primarily carried at fair value with the unrealized gains and losses reported as a component of equity. Management determines the appropriate classification of investments at the time of purchase and re-evaluates whether the investments pass both the hold to collect and sell and solely payments of principal and interest tests. The short term investments with maturities greater than twelve months are classified as short term when they are intended for use in current operations. The cost basis for investments sold is based upon the specific identification method.

(u) Long term investments

Long term investments consist primarily of non-controlling equity interests in public and private companies where the Group does not exercise significant influence. The majority of the investments are classified as equity instruments carried at fair value through other comprehensive income. Refer to Note 24.

(v) Share capital

Ordinary shares are classified as equity.

Equity instruments are initially measured at the fair value of the cash or other resources received or receivable, net of the direct costs of issuing the equity instruments.

In 2018, the Group began repurchasing its ordinary shares. The cost of treasury shares repurchased is shown as a reduction to equity, within treasury shares, on the statement of financial position. When treasury shares are sold, reissued, or retired, the amount received is reflected as an increase to equity based on a weighted average cost, with any surplus or deficit recorded within Other paid in capital.

(w) Share-based compensation

Employees of the Group receive remuneration in the form of share-based compensation transactions, whereby employees render services in consideration for equity instruments.

The cost of equity-settled transactions with employees is determined by the fair value at the date of grant using an appropriate valuation model. The cost is recognized in the consolidated statement of operations, together with a corresponding credit to other reserves in equity, over the period in which the performance and service conditions are fulfilled.

The cumulative expense recognized for equity-settled transactions with employees at each reporting date until the vesting date reflects the Group's best estimate of the number of equity instruments that will ultimately vest. The expense for a period represents the movement in cumulative expense recognized at the beginning and end of that period, and is recognized in employee share-based compensation. When the terms of an equity-settled transaction award are modified, the minimum expense recognized is the expense as if the terms had not been modified, if the original terms of the award are met. An additional expense is recognized for modifications that increase the total fair value of the share-based compensation transaction or are otherwise beneficial to the grantee as measured at the date of modification. There were no material modifications to any share-based compensation transactions during 2020, 2019, and 2018.

Social costs are payroll taxes associated with employee salaries and benefits, including share-based compensation. Social costs in connection with granted options and restricted stock units are accrued over the vesting period based on the intrinsic value of the award that has been earned at the end of each reporting period. The amount of the liability reflects the amortization of the award and the impact of expected forfeitures. The social cost rate at which the accrual is made generally follows the tax domicile within which other compensation charges for a grantee are recognized.

The assumptions and models used for estimating fair value for share-based compensation transactions are disclosed in Note 19.

In many jurisdictions, tax authorities levy taxes on share-based compensation transactions with employees that give rise to a personal tax liability for the employee. In some cases, the Group is required to withhold the tax due and to settle it with the tax authority on behalf of the employees. To fulfil this obligation, the terms of the Group's restricted stock unit arrangements permit the Group to withhold the number of shares that are equal to the monetary value of the employee's tax obligation from the total number of shares that otherwise would have been issued to the employee upon vesting of the restricted stock unit. The monetary value of the employee's tax obligation is recorded as a deduction from Other reserves for the shares withheld.

(x) Employee benefits

The Group provides defined contribution plans to its employees. The Group pays contributions to publicly and privately administered pension insurance plans on a mandatory or contractual basis. The Group has no further payment obligations once the contributions have been paid. Contributions to defined contribution plans are expensed when employees provide services. The Group's post-employment schemes do not include any defined benefit plans.

(y) Provisions

Provisions are recognized when the Group has a present obligation (legal or constructive) as a result of a past event, it is probable that an outflow of resources embodying economic benefits will be required to settle the obligation, and a reliable estimate can be made of the amount of the obligation.

New and amended standards and interpretations adopted by the Group

The IASB has issued amendments to the definition of a business in IFRS 3 Business Combinations to help entities determine whether or not an acquired set of activities and assets is a business. It has also issued amendments to IAS 1 Presentation of Financial Statements and IAS 8 Accounting Policies to align the definition of "material" across the standards and to clarify certain aspects of the definition. The Group has adopted these amendments as of January 1, 2020. There was no impact on the Group's accounting policies or the consolidated financial statements. There are no other IFRS or IFRIC interpretations effective as of January 1, 2020 that have a material impact.

New standards and interpretations issued not yet effective

There are no IFRS or IFRS Interpretations Committee ("IFRIC") interpretations that are not effective that are expected to have a material impact.

3. Critical accounting estimates and judgments

The preparation of the consolidated financial statements requires management to make judgments, estimates, and assumptions that affect the reported amounts of revenues, expenses, assets, liabilities, and equity in the consolidated financial statements and the accompanying disclosures. Estimates and judgments are continually evaluated and are based on historical experience and other factors, including expectations of future events.

Uncertainty about these assumptions and estimates could result in outcomes that require a material adjustment to the carrying amount of assets or liabilities affected in future periods.

The areas where assumptions and estimates are significant to the consolidated financial statements are:

(i) The Group measures the cost of equity-settled transactions with employees and non-employees by reference to the fair value of the equity instruments at the date at which they are granted. Prior to April 3, 2018, the fair value was estimated using a model, which required the determination of the appropriate inputs, specifically ordinary share price. Subsequent to the Group’s direct listing, ordinary share price is no longer based on significant assumptions and estimates. The assumptions and models used for estimating the fair value of share-based compensation transactions are disclosed in Note 19.

(ii) Prior to April 3, 2018, the fair value of the Group’s Convertible Notes, warrants, contingent options, and long term investments were estimated using valuation techniques using inputs based on management’s judgment and conditions that existed at each reporting date. On April 3, 2018, the Group derecognized the Convertible Notes and contingent options. Subsequent to December 12, 2018, the fair value of the Group’s investment in TME is based on inputs within Level 1 of the fair value hierarchy as disclosed in Note 2. The assumptions and models used for estimating the fair value of the instruments are disclosed in Note 24.

(iii) The Group has recognized deferred tax assets for fiscal loss carry-forwards, tax credits and deductible temporary differences. At period end, we assess whether there is convincing evidence that the Group will generate future taxable income against which deferred tax assets can be utilized and, thus, that recovery is probable. See Note 10.

(iv) In accordance with the accounting policy described in Note 2, the Group annually performs an impairment test regarding goodwill. The assumptions used for estimating fair value and assessing available headroom based on conditions that existed at the testing date are disclosed in Note 14.

(v) The Group’s agreements and arrangements with rights holders for the content used on its platform are complex. Some rights holders have allowed the use of their content on the platform while negotiations of the terms and conditions or determination of statutory rates are ongoing. In certain jurisdictions, rights holders have several years to claim royalties for musical composition, and therefore, estimates of the royalty accruals are based on available information

and historical trends. The determination of royalty accruals requires complex IT systems and a significant volume of data as well as significant judgements, assumptions, and estimates of the amounts to be paid. See Note 22.

(vi) Management makes significant assumptions and estimates when determining the amounts to record for provision for legal contingencies. See Note 23.

(vii) In business combinations, the Group allocates the fair value of purchase consideration to the tangible assets acquired, liabilities assumed, and intangible assets acquired based on their estimated fair values. The excess of the fair value of purchase consideration over the fair values of these identified assets and liabilities is recorded as goodwill. Such valuations require management to make significant estimates, assumptions, and judgments, especially with respect to intangible assets and contingent consideration. See Note 5.

(viii) As most of the Group's lease agreements do not provide an implicit rate of return, the Group uses its incremental borrowing rate based on the information available at the lease commencement date to determine the present value of lease payments. For the Group's lease agreements that existed prior to the adoption date of IFRS 16, the Group determined its incremental borrowing rate as of January 1, 2019. The Group's incremental borrowing rate is determined based on estimates and judgments, including the credit rating of the Group's leasing entities and a credit spread. See Note 2 and 12.

(ix) *Uncertain tax positions*

In determining the amount of current and deferred income tax, the Group takes into account the impact of uncertain tax positions and whether additional taxes, interest or penalties may be due. This assessment relies on estimates and assumptions and may involve a series of judgments about future events. New information may become available that causes the Group to change its judgment regarding the adequacy of existing tax liabilities. Such changes to tax liabilities will impact tax expense in the period that such a determination is made. See Note 10.

4. Revenue recognition

Revenue from contracts with customers

(i) Disaggregated revenue

The Group discloses revenue by reportable segment and geographic area in Note 6.

(ii) Performance obligations

The Group discloses its policies for how it identifies, satisfies, and recognizes its performance obligations associated with its contracts with customers in Note 2.

(iii) Contract liabilities

The Group's contract liabilities from contracts with customers consist primarily of deferred revenue. Deferred revenue is mainly comprised of subscription fees collected for services not yet performed, and therefore, the revenue has not been recognized. Revenue is recognized over time as the services are performed. As of December 31, 2020 and 2019, the Group had deferred revenue of €380 million and €319 million, respectively. The increase in deferred revenue in 2020 is primarily a result of an increase in the number of Premium Subscribers. This balance will be recognized as revenue as the services are performed, which is generally expected to occur over a period up to a year.

Revenue recognized that was included in the contract liability balance at the beginning of the years ended December 31, 2020, 2019, and 2018 is €301 million, €248 million, and €210 million, respectively.

5. Business combinations

The following sections describe the Group's material acquisitions during the years ended December 31, 2020 and 2019.

Bill Simmons Media Group, LLC

On March 6, 2020, the Group acquired 100% of Bill Simmons Media Group, LLC ("The Ringer"), a leading creator of sports, entertainment, and pop culture content. The acquisition allows the Group to expand its content offering, audience reach, and podcast monetization.

The fair value of the purchase consideration was €170 million, comprising €138 million in cash paid at closing and a liability of €32 million, being the present value of payments of €44 million over five years. The acquisition was accounted for under the acquisition method. Of the total purchase consideration, €140 million has been recorded to goodwill, €26 million to acquired intangible assets, €1 million to cash and cash equivalents, and €3 million to other tangible net assets. The Group incurred €3 million in acquisition related costs, which were recognized as general and administrative expenses.

The goodwill represents the future economic benefits expected to arise from other intangible assets acquired that do not qualify for separate recognition, including an increase in content development capabilities, an experienced workforce, and expected future synergies. The goodwill recognized is expected to be deductible for tax purposes. The goodwill was included in the Ad-Supported segment.

The intangible assets, which consist of trade names, were valued by the Group using the relief from royalty method under the income approach. The relief from royalty method is based on the application of a royalty rate to forecasted revenue under the trade names. The assets have useful lives ranging from five to eight years.

In addition to the purchase consideration, there are cash payments of €47 million that are contingent on the continued employment of certain Ringer employees. In addition, €12 million of equity instruments were offered to and accepted by certain Ringer employees, which have vesting conditions contingent on continued employment and are accounted for as equity-settled share-based compensation transactions. These cash payments and share-based compensation transactions are recognized as post-combination expense over employment service periods of up to five years, if not forfeited by the employees.

Megaphone LLC

On December 8, 2020, the Group acquired 100% of Megaphone LLC ("Megaphone"), a podcast technology company that provides hosting and ad-insertion capabilities for publishers and targeted advertising sales for brand partners. The acquisition allows the Group to expand and scale its podcast monetization and product offering for advertisers.

The fair value of the purchase consideration was €195 million in cash paid at closing. The acquisition was accounted for under the acquisition method. Of the total purchase consideration, €164 million has been recorded to goodwill, €22 million to acquired intangible assets, €14 million to trade and other receivables, €1 million to cash and cash equivalents, and €6 million to other tangible net liabilities. The Group incurred €2 million in acquisition related costs, which were recognized as general and administrative expenses.

The goodwill represents the future economic benefits expected to arise from other intangible assets acquired that do not qualify for separate recognition, including expected future synergies and technical expertise of the acquired workforce. The goodwill recognized is expected to be deductible for tax purposes. The goodwill was included in the Ad-Supported segment.

The intangible assets acquired relate to existing technology and publisher relationships, which have a useful life of five and ten years, respectively. The Group valued the existing technology and publishers relationships using the relief from royalty method and discounted cash flow method, respectively, under the income approach.

In addition to the purchase consideration, €6 million of equity instruments were offered to and accepted by Megaphone employees, which have vesting conditions contingent on continued employment and are accounted for as equity-settled share-based compensation transactions. These share-based compensation transactions are recognized as post-combination expense over employment service periods of up to four years, if not forfeited by the employees.

Anchor FM Inc.

On February 14, 2019, the Group acquired Anchor FM Inc. ("Anchor"), a software company that enables users to create and distribute their own podcasts. The acquisition allows the Group to leverage Anchor's creator-focused platform to accelerate the Group's path to becoming the world's leading audio platform.

The total purchase consideration was €136 million, which consisted of €125 million in cash and €11 million related to the fair value of partially vested share-based compensation awards replaced. The replacement of Anchor's share-based compensation awards with share-based compensation awards of the Company has been measured in accordance with IFRS 2, *Share-based Payment*, at the acquisition date. The acquisition was accounted for under the acquisition method. Of the total purchase consideration, €126 million has been recorded to goodwill, €9 million to acquired intangible assets, €2 million to deferred tax liabilities, €4 million to cash and cash equivalents, and €1 million to other liabilities. The Group incurred €1 million in acquisition related costs, which were recognized as general and administrative expenses.

The goodwill represents the future economic benefits expected to arise from other intangible assets acquired that do not qualify for separate recognition, including expected future synergies and technical expertise of the acquired workforce. None of the goodwill recognized is expected to be deductible for tax purposes. The goodwill was included in the Ad-Supported segment.

The intangible assets acquired primarily relate to existing technology and have a useful life of 3 years. The Group valued the existing technology using the replacement cost method under the cost approach.

Included in the arrangement are €20 million of equity instruments granted to certain employees that have vesting conditions contingent on continued employment and are accounted for as equity-settled share-based compensation transactions. Of the value of these instruments, €11 million is included in purchase consideration as discussed above, with the remaining amount of up to €9 million to be recorded as post-combination expense over service periods of up to four years, if not forfeited by the employees.

Gimlet Media Inc.

On February 15, 2019, the Group acquired Gimlet Media Inc. ("Gimlet"), an independent producer of podcast content. The acquisition allows the Group to leverage Gimlet's in-depth knowledge of original content production and podcast monetization.

The total purchase consideration was €172 million, which consisted of €170 million in cash and €2 million related to the fair value of partially vested share-based compensation awards replaced. The replacement of Gimlet's share-based compensation awards with share-based compensation awards of the Company has been measured in accordance with IFRS 2, *Share-based Payment*, at the acquisition date.

The acquisition was accounted for under the acquisition method. Of the total purchase consideration, €148 million has been recorded to goodwill, €15 million to acquired intangible assets, €5 million to deferred tax liabilities, €3 million to cash and cash equivalents, €3 million to content assets and €8 million to other tangible net assets. The Group incurred €3 million in acquisition related costs, which were recognized as general and administrative expenses.

The goodwill represents the future economic benefits expected to arise from other intangible assets acquired that do not qualify for separate recognition, including an increase in content development capabilities, an experienced workforce, and expected future synergies. None of the goodwill recognized is expected to be deductible for tax purposes. The goodwill was included in the Ad-Supported segment.

The intangible assets and the content assets were valued by the Group using the relief from royalty method and the discounted cash flow method, respectively, both under the income approach. The relief from royalty method is based on the application of a royalty rate to forecasted revenue under the trade names. The assets have useful lives ranging from two to eight years.

Included in the arrangement are payments that are contingent on continued employment. The payments are recognized as remuneration for post-combination services and are automatically forfeited if employment terminates. A total of up to €40 million of post-combination cash pay-outs will be recorded as compensation expense over a service period of up to four years.

Cutler Media, LLC

On April 1, 2019, the Group acquired Cutler Media, LLC ("Parcast"), a premier storytelling podcast studio. The acquisition allows the Group to bolster its content portfolio and utilize Parcast's writers, producers, and researchers in the production of high-quality content.

The total purchase consideration was €49 million, which consisted of €36 million in cash and €13 million related to the estimated fair value of contingent consideration. The maximum potential contingent consideration is €43 million over three years following the date of acquisition, which is dependent on certain user engagement targets. The fair value of the contingent consideration is presented as a component of accrued expenses and other liabilities on the consolidated statement of financial position. The contingent consideration was valued by the Group using a simulation of user engagement outcomes under the income approach. Changes to the fair value of the contingent consideration will be recorded as operating expenses within general and administrative expenses.

The acquisition was accounted for under the acquisition method. Of the total purchase consideration, €46 million has been recorded to goodwill, €2 million to acquired intangible assets, and €1 million to content assets. The Group incurred €1 million in acquisition related costs, which were recognized as general and administrative expenses.

The goodwill represents the future economic benefits expected to arise from other intangible assets acquired that do not qualify for separate recognition, including an increase in content development capabilities, an experienced workforce, and expected future synergies. The goodwill recognized is expected to be deductible for tax purposes. The goodwill was included in the Ad-Supported segment.

The intangibles assets and the content assets were valued by the Group using the relief from royalty method and the discounted cash flow method, respectively, both under the income approach. The relief from royalty method is based on the application of a royalty rate to forecasted revenue under the trade names. The assets have useful lives ranging from two to six years.

Included in the arrangement are payments that are contingent on continued employment. The payments are recognized as remuneration for post-combination services and are automatically forfeited if employment terminates. A total of up to €10 million of post-combination cash pay-outs will be recorded as compensation expense over a service period of up to four years.

Revenues and operating results of acquired businesses for the years ended December 31, 2020, 2019 or 2018 were not significant, individually or in the aggregate, to the Group's consolidated statement of operations. The amount for business combinations, net of cash acquired, within the consolidated statement of cash flows for the year ended December 31, 2020 includes €3 million and €2 million of investing cash outflows for payments of contingent and deferred consideration, respectively.

6. Segment information

The Group has two reportable segments: Premium and Ad-Supported. The Premium Service is a paid service in which customers can listen on-demand and offline. Revenue for the Premium segment is generated through subscription fees. The Ad-Supported Service is free to the user. Revenue for the Ad-Supported segment is primarily generated through the sale of advertising across the Group's music and podcast content. Royalty costs are primarily recorded in each segment based on specific rates for each segment agreed to with rights holders. Effective January 1, 2020, all podcast content costs are recorded in the Ad-Supported segment. Certain reclassifications have been made to the amounts for prior year in order to conform to the current year's presentation. The remaining royalties that are not specifically associated to either of the segments are allocated based on user activity or the revenue recognized in each segment. The operations of businesses acquired during each of the years ended December 31, 2019 and 2020 are included in the Ad-Supported segment. No operating segments have been aggregated to form the reportable segments.

Key financial performance measures of the segments including revenue, cost of revenue, and gross profit are as follows:

	2020	2019	2018
		(in € millions)	
Premium			
Revenue	7,135	6,086	4,717
Cost of revenue	5,126	4,443	3,451
Gross profit	**2,009**	**1,643**	**1,266**
Ad-Supported			
Revenue	745	678	542
Cost of revenue	739	599	455
Gross profit	**6**	**79**	**87**
Consolidated			
Revenue	7,880	6,764	5,259
Cost of revenue	5,865	5,042	3,906
Gross profit	**2,015**	**1,722**	**1,353**

Reconciliation of gross profit

Operating expenses, finance income, and finance costs are not allocated to individual segments as these are managed on an overall group basis. The reconciliation between reportable segment gross profit to the Group's loss before tax is as follows:

	2020	2019	2018
		(in € millions)	
Segment gross profit	**2,015**	**1,722**	**1,353**
Research and development	(837)	(615)	(493)
Sales and marketing	(1,029)	(826)	(620)
General and administrative	(442)	(354)	(283)
Finance income	94	275	455
Finance costs	(510)	(333)	(584)
Share in losses of associate	—	—	(1)
Loss before tax	**(709)**	**(131)**	**(173)**

Revenue by country

	2020	2019	2018
		(in € millions)	
United States	2,947	2,542	1,973
United Kingdom	836	727	576
Luxembourg	5	4	3
Other countries	4,092	3,491	2,707
	7,880	**6,764**	**5,259**

Premium revenue is attributed to a country based on where the membership originates. Ad-Supported revenue is attributed to a country based on where the advertising campaign is viewed. There are no countries that individually make up greater than 10% of total revenue included in "Other countries."

Non-current assets by country

Non-current assets for this purpose consists of property and equipment and lease right-of-use assets.

	2020	2019	2018
		(in € millions)	
Sweden	151	154	29
United States	504	525	142
United Kingdom	65	79	19
Other countries	37	22	7
	757	**780**	**197**

As of December 31, 2020, 2019, and 2018, the Group held no property and equipment in Luxembourg.

7. Personnel expenses

	2020	2019	2018
		(in € millions, except employee data)	
Wages and salaries	694	541	409
Social costs	265	111	90
Contributions to retirement plans	32	26	20
Share-based compensation	176	122	88
Other employee benefits	97	88	60
	1,264	**888**	**667**
Average full-time employees	**5,584**	**4,405**	**3,651**

8. Auditor remuneration

	2020	2019	2018
		(in € millions)	
Auditor fees	5	5	4

9. Finance income and costs

	2020	2019	2018
		(in € millions)	
Finance income			
Fair value movements on derivative liabilities (Note 24)	49	182	376
Interest income	17	31	25
Other financial income	8	1	11
Foreign exchange gains	20	61	43
Total	**94**	**275**	**455**
Finance costs			
Fair value movements on derivative liabilities (Note 24)	(307)	(235)	(360)
Fair value movements on Convertible Notes (Note 24)	—	—	(201)
Interest expense on lease liabilities	(41)	(38)	—
Interest, bank fees and other costs	(13)	(5)	(6)
Foreign exchange losses	(149)	(55)	(17)
Total	**(510)**	**(333)**	**(584)**

10. Income tax

	2020	2019	2018
		(in € millions)	
Current tax expense			
Current year	25	45	41
Changes in estimates in respect to prior year	(9)	(1)	—
	16	**44**	**41**
Deferred tax (benefit)/expense			
Temporary differences	(137)	27	(123)
Change in recognition of deferred tax	(7)	(17)	(14)
Change in tax rates	—	1	1
	(144)	**11**	**(136)**
Income tax (benefit)/expense	**(128)**	**55**	**(95)**

For the years ended December 31, 2020, 2019, and 2018, the Group recorded an income tax (benefit)/expense of €163 million, €(31) million, and €147 million, respectively, in other comprehensive (loss)/income related to components of other comprehensive (loss)/income.

In 2020, the Group recognized current income tax expense of €4 million for uncertain tax positions and has cumulatively recorded liabilities of €5 million for uncertain tax positions at December 31, 2020, of which none is reasonably expected to be resolved within twelve months.

A reconciliation between the reported tax expense for the year, and the theoretical tax expense that would arise when applying the statutory tax rate in Luxembourg of 24.94%, 24.94%, and 26.01%, to the consolidated loss before taxes for the years ended December 31, 2020, 2019, and 2018, respectively, is shown in the table below:

	2020	2019	2018
		(in € millions)	
Loss before tax	**(709)**	**(131)**	**(173)**
Tax using the Luxembourg tax rate	(177)	(33)	(45)
Effect of tax rates in foreign jurisdictions	12	2	(11)
Permanent differences	54	58	(7)
Change in unrecognized deferred taxes	(9)	29	(43)
Adjustments in respect of previous years	(9)	(1)	
Other	1	—	11
Income tax (benefit)/expense	**(128)**	**55**	**(95)**

The Group will be subject to tax in future periods as a result of foreign exchange movements between USD, EUR, and SEK, primarily related to its investment in TME.

The major components of deferred tax assets and liabilities are comprised of the following:

	2020	2019
	(in € millions)	
Intangible assets	(61)	(42)
Share-based compensation	27	14
Tax losses carried forward	224	78
Property and equipment	91	79
Unrealized gains	(276)	(126)
Other	10	4
Net deferred tax	**15**	**7**

A reconciliation of net deferred tax is shown in the table below:

	2020	2019	2018
		(in € millions)	
At January 1	**7**	**6**	**6**
Movement recognized in consolidated statement of operations	144	(11)	136
Movement recognized in consolidated statement of changes in equity and other comprehensive income	(136)	18	(136)
Movement due to acquisition	—	(6)	—
At December 31	**15**	**7**	**6**

Deferred tax assets and deferred tax liabilities are offset if a legally enforceable right exists to set off current tax assets against current tax liabilities and the deferred taxes relate to the same taxable entity and the same taxation authority.

Reconciliation to consolidated statement of financial position	2020	2019
	(in € millions)	
Deferred tax assets	15	9
Deferred tax liabilities	—	2

Deferred tax assets have not been recognized in respect of the following items, because it is not probable that future taxable profit will be available against which the Group can use the benefits. Certain prior year amounts have been reclassified to conform to current year presentation.

	2020	2019
	(in € millions)	
Intangible assets	72	77
Share-based compensation	198	58
Tax losses carried forward	201	192
Tax credits carried forward	28	14
Unrealized losses	1	3
Other	35	33
	535	377

At December 31, 2020, no deferred tax liability had been recognized on investments in subsidiaries. The Company has concluded it has the ability and intention to control the timing of any distribution from its subsidiaries. There are no distributions planned in the foreseeable future. It is not practicable to calculate the unrecognized deferred tax liability on investments in subsidiaries.

Tax loss and credit carry-forwards as at December 31, 2020 were expected to expire as follows:

Expected expiry	2021 - 2030	2031 and onwards	Unlimited	Total
		(in € millions)		
Tax loss carry-forwards	—	695	1,501	2,196
Research and development credit carry-forward	—	28	—	28
Foreign tax credits	2	—	—	2

The Group has significant net operating loss carry-forwards in the United States and Sweden. In certain jurisdictions, if the Group is unable to earn sufficient income or profits to utilize such carry-forwards before they expire, they will no longer be available to offset future income or profits.

In Sweden, utilization of these net operating loss carry-forwards may be subject to a substantial annual limitation if there is an ownership change within the meaning of Chapter 40, paragraphs 10-14, of the Swedish Income Tax Act (the "Swedish Income Tax Act"). In general, an ownership change, as defined by the Swedish Income Tax Act results from a transaction or series of transactions over a five-year period resulting in an ownership change of more than 50% of the outstanding stock of a company by certain categories or individuals, businesses or organizations.

In addition, in the United States, utilization of these net operating loss carry-forwards may be subject to a substantial annual limitation if there is an ownership change within the meaning of Section 382 of the Internal Revenue Code ("Section 382"). In general, an ownership change, as defined by Section 382, results from a transaction or series of transactions over a three-year period resulting in an ownership change of more than 50% of the outstanding stock of a company by certain stockholders or public groups. Since the Group formation, the Group has raised capital through the issuance of capital stock on several occasions, and the Group may continue to do so, which, combined with current or future shareholders' disposition of ordinary shares, may have resulted in such an ownership change. Such an ownership change may limit the amount of net operating loss carry-forwards that can be utilized to offset future taxable income.

The Group's most significant tax jurisdictions are Sweden and the U.S. (both at the federal level and in various state jurisdictions). Because of its tax loss and tax credit carry-forwards, substantially all of the Group's tax years after 2012 remain open to federal, state, and foreign tax examination. Certain of the Group's subsidiaries are currently under examination by the Swedish, U.S. and other foreign tax authorities for tax years from 2013-2018. These examinations may lead to adjustments to the Group's taxes.

The Group has initiated and is in negotiations for an Advanced Pricing Agreement ("APA) between Sweden and the United States governments for the tax years 2014 through 2020 covering various transfer pricing matters. These transfer pricing matters may be significant to the consolidated financial statements.

11. Loss per share

Basic loss per share is computed using the weighted-average number of outstanding ordinary shares during the period. Diluted loss per share is computed using the treasury stock method to the extent that the effect is dilutive by using the weighted-average number of outstanding ordinary shares and potential ordinary shares during the period. The Group's potential ordinary shares consist of incremental shares issuable upon the assumed exercise of stock options and warrants, and the incremental shares issuable upon the assumed vesting of unvested restricted stock units, restricted stock awards, and other contingently issuable shares, excluding all anti-dilutive ordinary shares outstanding during the period. The Group used the if-converted method to calculate the dilutive impact of the warrants and adjusted the numerator for changes in profit or loss. The computation of loss per share for the respective periods is as follows:

	2020	2019	2018
	(in € millions, except share and per share data)		
Basic loss per share			
Net loss attributable to owners of the parent	(581)	(186)	(78)
Shares used in computation:			
Weighted-average ordinary shares outstanding	187,583,307	180,960,579	177,154,405
Basic net loss per share attributable to owners of the parent	**(3.10)**	**(1.03)**	**(0.44)**
Diluted loss per share			
Net loss attributable to owners of the parent	(581)	(186)	(78)
Fair value gains on dilutive warrants	—	—	(14)
Net loss used in the computation of diluted loss per share	(581)	(186)	(92)
Shares used in computation:			
Weighted-average ordinary shares outstanding	187,583,307	180,960,579	177,154,405
Warrants	—	—	4,055,887
Diluted weighted average ordinary shares	187,583,307	180,960,579	181,210,292
Diluted net loss per share attributable to owners of the parent	**(3.10)**	**(1.03)**	**(0.51)**

Potential dilutive securities that were not included in the diluted per share calculations because they would be anti-dilutive were as follows:

	2020	2019	2018
Employee options	9,041,288	12,153,772	12,243,526
Restricted stock units	1,320,193	638,350	100,383
Restricted stock awards	—	41,280	61,880
Other contingently issuable shares	156,190	162,320	—
Warrants	800,000	2,400,000	—

12. Leases

On January 1, 2019, the Group adopted IFRS 16, and all related amendments, using the modified retrospective transition method, under which the cumulative effect of initial application is recognized in accumulated deficit at January 1, 2019.

The Group leases certain properties under non-cancellable lease agreements that relate to office space. The expected lease terms are between one and fourteen years. The Group currently does not act in the capacity of a lessor.

Below is the roll-forward of lease right-of-use assets:

Right of use assets

	(in € millions)
Cost	
At January 1, 2019	**471**
Increases	138
Acquired in business combinations	11
Decreases	(39)
Exchange differences	6
At December 31, 2019	**587**
Increases	29
Acquired in business combinations	3
Decreases	(3)
Exchange differences	(35)
At December 31, 2020	**581**
Accumulated depreciation	
At January 1, 2019	**(75)**
Depreciation charge	(42)
Decreases	21
Exchange differences	(2)
At December 31, 2019	**(98)**
Depreciation charge	(49)
Decreases	3
Exchange differences	7
At December 31, 2020	**(137)**
Cost, net accumulated depreciation	
At December 31, 2019	**489**
At December 31, 2020	**444**

Below is the roll-forward of lease liabilities:

Lease liabilities	**2020**	**2019**
	(in € millions)	
At January 1	**628**	**541**
Increases	32	147
Acquired in business combinations	3	11
Payments [(1)]	(79)	(54)
Interest expense	41	38
Decreases	—	(28)
Lease incentives received [(1)]	20	15
Increases in lease incentives receivable	(1)	(47)
Exchange differences	(36)	5
At December 31	**608**	**628**

(1) Included within the consolidated statement of cash flows

Below is the maturity analysis of lease liabilities:

Lease liabilities **Maturity Analysis**	**December 31, 2020** **(in € millions)**
Less than one year	79
One to five years	329
More than five years	480
Total lease commitments	**888**
Impact of discounting remaining lease payments	(290)
Lease incentives receivable	10
Total lease liabilities	**608**
Lease liabilities included in the consolidated statement of financial position	
Current	31
Non-current	577
Total	**608**

Excluded from the lease commitments above are short-term leases. Expenses relating to short term leases were approximately €9 million and €14 million for the year ended December 31, 2020 and 2019, respectively. Additionally, the Group has entered into certain lease agreements with approximately €12 million of commitments, which have not commenced as of December 31, 2020, and as such, have not been recognized in the consolidated statement of financial position.

The weighted average incremental borrowing rate applied to lease liabilities recognized in the statement of financial position as of December 31, 2020 and December 31, 2019 was 5.4% and 6.4%, respectively.

13. Property and equipment

	Property and equipment	Leasehold improvements	Total
		(in € millions)	
Cost			
At January 1, 2019	**61**	**216**	**277**
Additions	20	106	126
Acquired in business combinations	1	5	6
Disposals	(29)	(38)	(67)
Exchange differences	1	6	7
At December 31, 2019	**54**	**295**	**349**
Additions	6	73	79
Disposals	(1)	(1)	(2)
Exchange differences	(3)	(21)	(24)
At December 31, 2020	**56**	**346**	**402**
Accumulated depreciation			
At January 1, 2019	**(50)**	**(30)**	**(80)**
Depreciation charge	(8)	(21)	(29)
Impairment charge	—	(6)	(6)
Disposals	30	28	58
Exchange differences	(1)	—	(1)
At December 31, 2019	**(29)**	**(29)**	**(58)**
Depreciation charge	(9)	(28)	(37)
Disposals	—	1	1
Exchange differences	2	3	5
At December 31, 2020	**(36)**	**(53)**	**(89)**
Cost, net accumulated depreciation			
At December 31, 2019	**25**	**266**	**291**
At December 31, 2020	**20**	**293**	**313**

For the year ended December 31, 2019, the Group recognized a €6 million impairment charge on leasehold improvements upon termination of the associated lease agreement. There were no impairment charges recognized for the year ended December 31, 2020.

The Group had €59 million and €15 million of leasehold improvements that were not placed into service as of December 31, 2020 and 2019, respectively.

14. Goodwill and intangible assets

	Internal development costs and patents	Acquired intangible assets	Total	Goodwill	Total
			(in € millions)		
Cost					
At January 1, 2019	**26**	**21**	**47**	**146**	**193**
Additions	19	—	19	—	19
Acquisition, business combination (Note 5)	—	27	27	328	355
Exchange differences	—	(1)	(1)	4	3
At December 31, 2019	**45**	**47**	**92**	**478**	**570**
Additions	19	—	19	—	19
Acquisition, business combination (Note 5)	—	48	48	304	352
Exchange differences	—	(4)	(4)	(46)	(50)
At December 31, 2020	**64**	**91**	**155**	**736**	**891**
Accumulated amortization					
At January 1, 2019	**(12)**	**(7)**	**(19)**	**—**	**(19)**
Amortization charge	(7)	(9)	(16)	—	(16)
Exchange differences	—	1	1	—	1
At December 31, 2019	**(19)**	**(15)**	**(34)**	**—**	**(34)**
Amortization charge	(12)	(13)	(25)	—	(25)
Exchange differences	—	1	1	—	1
At December 31, 2020	**(31)**	**(27)**	**(58)**	**—**	**(58)**
Cost, net accumulated amortization					
At December 31, 2019	**26**	**32**	**58**	**478**	**536**
At December 31, 2020	**33**	**64**	**97**	**736**	**833**

Amortization charges related to intangible assets of €18 million, €14 million and €11 million in 2020, 2019, and 2018, respectively, is included in research and development in the consolidated statement of operations. Research and development costs that are not eligible for capitalization have been expensed in the period incurred.

Goodwill is tested for impairment on an annual basis or when there are indications the carrying amount may be impaired. Goodwill is allocated to the Group's two operating segments, Premium and Ad-Supported, based on the segment that is expected to benefit from the business combination. The Group monitors goodwill at the operating segment level for internal purposes, consistent with the way it assesses performance and allocates resources. The carrying amount of goodwill allocated to each of the operating segments is as follows:

	Premium	Ad-Supported	Premium	Ad-Supported
	2020	2020	2019	2019
		(in € millions)		
Goodwill	125	611	130	348

Valuation methodology

The Group performed its annual impairment test in the fourth quarter of 2020. The recoverable amount of the Premium and Ad-Supported operating segments are assessed using a fair value less costs of disposal ("FVLCD") model. The FVLCD valuation is considered a level 3 in the fair value hierarchy, as it uses significant unobservable inputs. FVLCD is calculated using both the income and market approaches. The income approach is calculated by discounting the projected cash flows of each of the operating segments. The market valuation is calculated by applying the third quartile multiple from comparable publicly traded companies to the average revenue of the preceding and forecast twelve months, before and after the date of the impairment test, respectively. As a result of the analysis, the FVLCD for the Premium and Ad-Supported operating segments was determined to be in excess of their carrying amounts.

Key assumptions used in the FVLCD calculations at the impairment testing date

In 2020, the Group weighted the income and market approaches 50% and 50%, respectively, for each of its operating segments. The key assumptions used in the income approach was the discount rate based on the weighted-average cost of capital. The discount rate was 8.0% and 8.5% for the Group's Premium and Ad-Supported segments, respectively. The key assumptions used in the market approach were the revenue multiples for comparable companies, which were selected based on industry similarity, financial risk, and size of each of the Group's operating segments. Revenue multiples used in the market approach ranged from 4.0 to 6.5.

There are no reasonably possible changes in the key assumptions that would result in the operating segments' carrying amounts exceeding their recoverable amounts.

15. Restricted cash and other non-current assets

	2020	2019
	(in € millions)	
Restricted cash		
Lease deposits and guarantees	48	54
Other	1	1
Other non-current assets	29	14
	78	**69**

16. Trade and other receivables

	2020	2019
	(in € millions)	
Trade receivables	323	302
Less: allowance for expected credit losses	(4)	(5)
Trade receivables – net	319	297
Other	145	105
	464	**402**

Trade receivables are non-interest bearing and generally have 30-day payment terms. Due to their comparatively short maturities, the carrying value of trade and other receivables approximate their fair value.

The aging of the Group's net trade receivables is as follows:

	2020	2019
	(in € millions)	
Current	218	209
Overdue 1 – 30 days	62	51
Overdue 31 – 60 days	26	19
Overdue 60 – 90 days	8	10
Overdue more than 90 days	5	8
	319	**297**

The movements in the Group's allowance for expected credit losses are as follows:

	2020	2019
	(in € millions)	
At January 1	**5**	**8**
Provision for expected credit losses	7	12
Reversal of unutilized provisions	(5)	(12)
Receivables written off	(3)	(3)
At December 31	**4**	**5**

The maximum exposure to credit risk at the reporting date is the carrying value of each class of receivables mentioned above. The Group does not hold any collateral as security.

17. Other current assets

	2020	2019
	(in € millions)	
Content assets	92	24
Prepaid expenses and other	47	36
Derivative assets	12	8
	151	**68**

Content asset amortization of €48 million, €20 million, and €8 million is included in cost of revenue in the consolidated statement of operations for the year ended December 31, 2020, 2019, and 2018, respectively.

18. Issued share capital and other reserves

As at each of December 31, 2020, 2019, and 2018, the authorized and subscribed share capital was comprised of 403,032,520 shares, at a par value €0.000625 each. As at December 31, 2020, 2019, and 2018, the Company had 193,614,910, 187,492,667, and 183,901,040 ordinary shares issued and fully paid, respectively.

The Group has incentive stock plans under which options and restricted stock to subscribe to the Company's share capital have been granted to executives and certain employees. Options exercised or restricted stock vesting under these plans are settled via either the issuance of new shares or issuance of shares from treasury.

On October 17, 2016, the Group issued, for €27 million in cash, warrants to acquire 5,120,000 ordinary shares to certain members of key management. The exercise price of each warrant was US$50.61, which was equal to 1.2 times the fair market value of ordinary shares on the date of issuance. On October 4, 2019, the Company issued 1,600,000 ordinary shares upon the exercise of 1,600,000 of these warrants, for cash of €74 million. On October 17, 2019, the Company issued 1,991,627 shares upon the effective net settlement of the remaining 3,520,000 warrants.

On July 13, 2017, the Group issued, for €9 million in cash, a warrant to acquire 1,600,000 ordinary shares to a holder that is an employee and a member of management of the Group. The exercise price of each warrant is US$89.73, which was equal to 1.3 times the fair market value of ordinary shares on the date of issuance. On July 13, 2020, the Company issued 1,084,043 ordinary shares and 10,840,430 beneficiary certificates upon the effective net settlement of all 1,600,000 outstanding warrants that were granted on July 13, 2017.

On December 15, 2017, the Group issued 8,552,440 ordinary shares in exchange for a non-controlling equity interest in TME valued at €910 million. For further details, please see Note 24. The ordinary shares issued are subject to certain transfer restrictions for a period of up to three years from December 15, 2017, subject to limited exceptions, including transfers with the Group's prior consent; transfers to certain permitted transferees; transfers pursuant to a tender offer or exchange offer recommended by the Group's board of directors for a majority of the Group's issued and outstanding securities; transfers pursuant to mergers, consolidations, or other business combination transactions approved by the Group's board of directors; transfers to the Group or any of its subsidiaries; or transfers that are necessary to avoid regulation as an "investment company" under the U.S. Investment Company Act of 1940, as amended.

On December 15 and 29, 2017, the Group entered into exchange agreements with holders of a portion of its Convertible Notes, pursuant to which the Group exchanged an aggregate of US$411 million in principal of Convertible Notes, plus accrued interest of US$37 million, for an aggregate of 6,554,960 ordinary shares.

In January 2018, the Group entered into an exchange agreement with holders of the remaining balance of its Convertible Notes, pursuant to which the Group exchanged the remaining of US$628 million of Convertible Notes, plus accrued interest, for 9,431,960 ordinary shares.

On February 16, 2018, the Company issued 10 beneficiary certificates per ordinary share held of record to entities beneficially owned by the Group's founders, Daniel Ek and Martin Lorentzon. The beneficiary certificates carry no economic rights and are issued to provide the holders of such beneficiary certificates with additional voting rights. The beneficiary certificates, subject to certain exceptions, are non-transferable and shall be automatically canceled for no consideration in the case of sale or transfer of the ordinary share to which they are linked. The Company may issue additional beneficiary certificates under the total authorized amount at the discretion of its Board of Directors, of which the Group's founders are members.

On April 3, 2018, the Group completed a direct listing of the Company's ordinary shares on the NYSE. Upon the direct listing, the option for the Convertible Noteholders to unwind the January 2018 exchange transaction expired and, as a result, the Company reclassified the Convertible Notes balance of €1.1 billion to Other paid in capital within Equity.

On November 5, 2018, the Company announced that it would commence a share repurchase program beginning in the fourth quarter of 2018. Repurchases of up to 10,000,000 of the Company's ordinary shares have been authorized by the Company's general meeting of shareholders and the Board of Directors approved such repurchase up to the amount of US$1.0 billion. The authorization to repurchase will expire on April 21, 2021 unless renewed by decision of a general meeting of shareholders of the Company. Through December 31, 2020, there have been 4,366,427 shares repurchased for €510 million under this program.

On July 1, 2019, the Group issued, for €15 million in cash, a warrant to acquire 800,000 ordinary shares to a holder that is an employee and a member of management of the Group. The exercise price of each warrant is US$190.09, which was equal to 1.3 times the fair market value of ordinary shares on the date of issuance. The warrants are exercisable at any time through July 1, 2022.

No dividends were paid during the year or are proposed.

All outstanding shares have equal rights to vote at general meetings.

For the year ended December 31, 2020 and 2019, the Company repurchased, in total, 5,038,200 and 3,679,156 of its own ordinary shares, respectively, and reissued 4,802,847 and 3,557,405 treasury shares, respectively, upon the exercise of stock options, restricted stock units, and contingently issuable shares. As of December 31, 2020 and 2019, the Company had 3,402,063 and 3,166,710 ordinary shares held as treasury shares, respectively.

As of December 31, 2020 and 2019, the Group's founders held 365,014,840 and 378,201,910 beneficiary certificates, respectively.

Other reserves

	2020	2019	2018
		(in € millions)	
Currency translation			
At January 1	**(11)**	**(15)**	**(7)**
Currency translation	(43)	4	(6)
Gains reclassified to consolidated statement of operations	—	—	(2)
At December 31	**(54)**	**(11)**	**(15)**
Short term investments			
At January 1	**1**	**(4)**	**(5)**
Gains/(losses) on fair value that may be subsequently reclassified to consolidated statement of operations	8	7	(2)
(Gains)/losses reclassified to consolidated statement of operations	(3)	—	2
Deferred tax	(1)	(2)	1
At December 31	**5**	**1**	**(4)**
Long term investments			
At January 1	**444**	**561**	**(11)**
Gains/(losses) on fair value not to be subsequently reclassified to consolidated statement of operations	777	(149)	720
Deferred tax	(162)	32	(148)
At December 31	**1,059**	**444**	**561**
Cash flow hedges			
At January 1	**(4)**	**(1)**	**—**
Gains/(losses) on fair value that may be subsequently reclassified to consolidated statement of operations	5	(7)	1
(Gains)/losses reclassified to revenue	(15)	10	(5)
Losses/(gains) reclassified to cost of revenue	11	(7)	3
Deferred tax	—	1	—
At December 31	**(3)**	**(4)**	**(1)**
Share-based compensation			
At January 1	**494**	**334**	**200**
Share-based compensation (Note 19)	181	127	88
Income tax impact associated with share-based payments (Note 10)	34	26	48
Issuance of share-based compensation in conjunction with business combinations (Note 5)	—	13	—
Restricted stock units withheld for employee taxes	(29)	(6)	(2)
At December 31	**680**	**494**	**334**
Other reserves at December 31	**1,687**	**924**	**875**

Currency translation reserve comprises foreign exchange differences arising from the translation of the financial statements of foreign operations into the reporting currency.

Short term investment reserve recognizes the unrealized fair value gains and losses on debt instruments held at fair value through Other Comprehensive Income (“OCI”).

Long term investment reserve recognizes the unrealized fair value gains and losses on equity instruments held at fair value through OCI.

Cash flow hedge reserve recognizes the unrealized gains and losses on the effective portion of foreign exchange forward contracts designated for hedging.

Share-based compensation reserve recognizes the grant date fair value of equity-settled awards provided to employees as part of their remuneration. For further details, please see Note 19.

19. Share-based compensation

Employee Stock Option Plans

Under the Employee Stock Option Plans ("ESOP"), stock options of the Company are granted to executives and certain employees of the Group. For options granted prior to January 1, 2016, the exercise price is equal to the fair value of the shares on grant date for employees in the United States and for U.S. citizens and fair value less 30% for the rest of the world. The value of the discount is included in the grant date fair value of the award. For options granted thereafter and through December 31, 2018 under these ESOP plans, the exercise price of the options is equal to the fair value of the shares on grant date for all employees. Generally, the first vesting period (13.5% – 25% of the initial grant) is up to one year from the grant date and subsequently vests at a rate of 6.25% each quarter until fully vested. The exercise price for options is payable in the EUR value of a fixed USD amount; therefore, the Group considers these awards to be USD-denominated. The options are generally granted with a term of five years.

During 2019 and 2020, the Company implemented new Employee Stock Option Plans and Director Stock Option Plans (together, the "2019 and 2020 Stock Option Plans"), under which stock options of the Company are granted to executives and employees of the Group and to members of the Company's Board of Directors, respectively. For options granted under the 2019 and 2020 Stock Option Plans, the exercise price is equal to the fair value of the ordinary shares on grant date or equal to 150% of the fair value of the ordinary shares on grant date. The exercise price is included in the grant date fair value of the award. The options granted to participants under the 2019 and 2020 Stock Option Plans have a first vesting period of three or eight months from date of grant and vest monthly or annually thereafter until fully vested. The options are granted with a term of five years.

Restricted Stock Unit Program

During 2019 and 2020, the Company implemented new restricted stock unit ("RSU") programs for employees and for members of its Board of Directors (together, the "2019 and 2020 RSU Plans"). Both are accounted for as equity-settled share-based compensation transactions. The RSUs are measured based on the fair market value of the underlying ordinary shares on the date of grant. The RSUs granted to participants under the 2020 RSU Plans have a first vesting period of three or eight months from date of grant and vest monthly or annually thereafter until fully vested four years from date of grant. The valuation of the RSUs was consistent with the fair value of the ordinary shares.

Restricted Stock Awards and Other

In connection with an acquisition during 2017, the Group issued 61,880 restricted stock awards ("RSAs") to certain employees of the aquiree. Vesting of the RSAs is contingent on continued employment of these employees. The awards are accounted for as equity-settled share-based compensation transactions. The RSAs vest over a two- and three-year period from the acquisition date. The valuation of the RSAs was consistent with the fair value of the ordinary shares. As of December 31, 2020, there are no longer any RSAs outstanding.

In connection with the acquisition of Anchor during 2019 and The Ringer during 2020, the Company granted 162,320 and 34,450 equity instruments to certain employees of Anchor and The Ringer, respectively. Each instrument effectively represents one ordinary share of the Company, which will be issued to the holder upon vesting. The instruments vest annually over a four-year and five-year period, respectively, from the acquisition date, and vesting of the instruments is contingent on continued employment. The instruments are accounted for as equity-settled share-based compensation transactions and are measured based on the fair market value of the underlying ordinary shares on the date of grant. The grant date fair value of each equity instrument granted to certain employees of Anchor and The Ringer was US$145.21 and US$145.14, respectively.

Activity in the RSUs, RSAs, and other contingently issuable shares outstanding and related information is as follows:

	RSUs		RSAs		Other	
	Number of RSUs	Weighted average grant date fair value	Number of Awards	Weighted average grant date fair value	Number of Awards	Weighted average grant date fair value
		US$		US$		US$
Outstanding at January 1, 2018	**195,937**	**42.46**	**61,880**	**90.65**	**—**	**—**
Granted	14,383	168.24	—	—	—	—
Forfeited	(15,991)	34.93	—	—	—	—
Released	(93,946)	40.12	—	—	—	—
Outstanding at December 31, 2018	**100,383**	**63.87**	**61,880**	**90.65**	**—**	**—**
Granted	715,224	137.15	—	—	162,320	145.21
Forfeited	(48,754)	118.96	—	—	—	—
Released	(128,503)	98.52	(20,600)	90.65	—	—
Outstanding at December 31, 2019	**638,350**	**134.79**	**41,280**	**90.65**	**162,320**	**145.21**
Granted	1,127,149	161.50	—	—	34,450	145.14
Forfeited	(91,613)	143.13	—	—	—	—
Released	(353,693)	138.66	(41,280)	90.65	(40,580)	145.21
Outstanding at December 31, 2020	**1,320,193**	**155.98**	**—**	**—**	**156,190**	**145.19**

In the table above, the number of RSUs released include ordinary shares that the Group has withheld for settlement of employees' tax obligations due upon the vesting of RSUs.

Activity in the stock options outstanding and related information is as follows:

	Options	
	Number of options	Weighted average exercise price
		US$
Outstanding at January 1, 2018	**14,646,720**	**48.73**
Granted	3,578,000	142.20
Forfeited	(1,220,508)	62.82
Exercised	(4,736,555)	40.97
Expired	(24,131)	54.98
Outstanding at December 31, 2018	**12,243,526**	**77.63**
Granted	4,152,565	147.11
Forfeited	(719,860)	105.01
Exercised	(3,478,660)	49.41
Expired	(43,799)	117.79
Outstanding at December 31, 2019	**12,153,772**	**107.68**
Granted	2,356,040	180.12
Forfeited	(855,051)	131.30
Exercised	(4,556,908)	78.87
Expired	(56,565)	146.69
Outstanding at December 31, 2020	**9,041,288**	**138.60**
Exercisable at December 31, 2018	**5,162,876**	**58.25**
Exercisable at December 31, 2019	**5,553,650**	**84.18**
Exercisable at December 31, 2020	**4,022,751**	**113.91**

The weighted-average contractual life for the stock options outstanding at December 31, 2020, 2019, and 2018 is 2.9 years, 2.9 years, and 2.9 years, respectively. The weighted-average share price at exercise for options exercised during

2020, 2019, and 2018 was US$198.10, US$141.82, and US$152.33, respectively. The weighted-average fair value of options granted during the year ended at December 31, 2020, 2019, and 2018 was US$36.82 per option, US$34.63 per option, and US$39.23 per option, and, respectively.

The stock options outstanding December 31, 2020, 2019, and 2018 are comprised of the following:

			2020		2019		2018	
Range of exercise prices (US$)			Number of options	Weighted average remaining contractual life (years)	Number of options	Weighted average remaining contractual life (years)	Number of options	Weighted average remaining contractual life (years)
1.65	to	45.00	195,207	0.3	2,130,161	0.9	4,753,052	1.8
45.01	to	90.00	1,243,833	1.2	2,482,270	2.2	3,337,414	3.2
90.01	to	135.00	2,234,257	2.7	2,946,838	3.4	2,695,890	3.9
135.01	to	180.00	3,671,417	3.5	3,318,423	4.1	749,360	4.3
180.01	to	437.63	1,696,574	3.6	1,276,080	3.7	707,810	4.2
			9,041,288	2.9	**12,153,772**	2.9	**12,243,526**	2.9

In determining the fair value of the employee share-based awards, the Group uses the Black-Scholes option-pricing model. The Company does not anticipate paying any cash dividends in the near future and therefore uses an expected dividend yield of zero in the option valuation model. The expected volatility is based on the historical volatility of public companies that are comparable to the Group over the expected term of the award. The risk-free rate is based on U.S. Treasury zero-coupon rates as the exercise price is based on a fixed USD amount. The expected life of the stock options is based on historical data and current expectations.

The following table lists the inputs to the Black-Scholes option-pricing models used for employee share-based compensation for the years ended December 31, 2020, 2019, and 2018:

	2020	2019	2018
Expected volatility (%)	30.0 – 42.8	30.1 – 35.2	32.0 – 34.7
Risk-free interest rate (%)	0.1 – 1.7	1.4 – 2.6	2.4 – 2.9
Expected life of stock options (years)	2.6 – 4.8	2.5 – 4.8	2.4 – 4.4
Weighted-average share price (US$)	162.82	136.09	142.20

Valuation assumptions are determined at each grant date and, as a result, are likely to change for share-based awards granted in future periods. Changes to the input assumptions could materially affect the estimated fair value of share-based compensation awards.

The sensitivity analysis below shows the impact of increasing and decreasing expected volatility by 10% as well as the impact of increasing and decreasing the expected life by one year. This analysis was performed on stock options granted in 2020. The following table shows the impact of these changes on stock option expense for the options granted in 2020:

	2020 (in € millions)
Actual stock option expense	30
Stock option expense increase (decrease) under the following assumption changes	
Volatility decreased by 10%	(9)
Volatility increase by 10%	9
Expected life decrease by 1 year	(6)
Expected life increase by 1 year	5

The expense recognized in the consolidated statement of operations for employee share-based compensation is as follows:

	2020	2019	2018
		(in € millions)	
Cost of revenue	8	4	3
Research and development	84	61	40
Sales and marketing	34	27	19
General and administrative	50	30	26
	176	**122**	**88**

20. Convertible notes and borrowings

Convertible Notes

On April 1, 2016, the Group issued US$1,000 million principal amount of Convertible Notes due in 2021. The notes were issued at par and bore interest of 5.0% payment-in-kind interest increasing by 100 basis points every six months after two years. Upon a specified conversion event occurring, the Convertible Notes would convert into ordinary shares at a conversion rate reflecting a conversion price equal to the lesser of a price cap per share or a discount of 20.00% to the per share price of the Company's ordinary shares. If a specified conversion event did not occur within twelve months, the discount would increase by 250 basis points and then again, every six months thereafter until a specified conversion event did occur. A direct listing was not considered a specified conversion event. The terms also included change of control clauses where the notes holders had the option to convert into ordinary shares. At maturity, if the notes had not yet been converted or repaid, note holders would receive cash in an amount equal to the original principal amount plus 10% annualized return.

The transaction costs of approximately US$20 million were effectively immediately expensed in finance costs.

The Convertible Note agreements included certain affirmative covenants, including the delivery of audited consolidated financial statements to the holders.

On December 15, 2017, holders of a portion of the Group's Convertible Notes exchanged US$301 million in principal of Convertible Notes, plus accrued interest of US$27 million, for 4,800,000 ordinary shares. The Convertible Notes were recorded at fair value on the date of exchange, which was reclassified to equity upon issuance of the ordinary shares. The fair value at exchange was based on secondary market transactions of US$600 million between note holders and a third party.

On December 27, 2017, the Group entered into an exchange agreement with holders of a portion of its Convertible Notes, pursuant to which the Group exchanged an aggregate of US$110 million in principal of Convertible Notes, plus accrued interest of US$10 million, for an aggregate of 1,754,960 ordinary shares as of December 29, 2017. The Convertible Notes were recorded at fair value on the date of exchange, which was reclassified to equity upon issuance of the ordinary shares. The fair value at exchange of US$211 million was based on the ordinary share fair value as at December 31, 2017.

In January 2018, the Group entered into an exchange agreement with holders of the remaining balance of its Convertible Notes, pursuant to which the Group exchanged the remaining of US$628 million of Convertible Notes, plus accrued interest, for 9,431,960 ordinary shares. Pursuant to this exchange agreement, subject to certain conditions, if the Company failed to list its ordinary shares on or prior to July 2, 2018, the Group had agreed to offer to each noteholder the option to unwind the transaction such that the Group purchases back the shares that were issued to such noteholder pursuant to the exchange and would have issued such noteholder a new note that is materially identical to its note prior to the exchange. The option to unwind the exchange if a listing did not occur by July 2, 2018 met the definition of a contingent settlement event, and resulted in the issued equity shares ("Converted Notes") being classified as a financial liability in the statement of financial position until the option to unwind expired due to a direct listing or the passage of time.

On April 3, 2018, the Group completed a direct listing of the Company's ordinary shares on the NYSE. Upon the direct listing, the option for the Convertible Noteholders to unwind the January 2018 exchange transaction expired and, as a result, the Group recorded an expense of €123 million within finance costs to mark to market the Convertible Notes to the fair value based on the closing price of the Company's ordinary shares on April 3, 2018. The Company then reclassified the Convertible Notes balance of €1.1 billion to Other paid in capital within Equity.

21. Trade and other payables

	2020	2019
	(in € millions)	
Trade payables	434	377
Value added tax and sales taxes payable	181	148
Other current liabilities	23	24
	638	**549**

Trade payables generally have a 30-day term and are recognized and carried at their invoiced value, inclusive of any value added tax that may be applicable.

22. Accrued expenses and other liabilities

	2020	2019
	(in € millions)	
Non-current		
Other accrued liabilities	42	20
	42	**20**
Current		
Accrued fees to rights holders	1,265	1,153
Accrued salaries, vacation, and related taxes	65	54
Accrued social costs for options and RSUs	169	64
Other accrued expenses	249	167
	1,748	**1,438**

23. Provisions

	Legal contingencies	Indirect tax	Other	Total
		(in € millions)		
Carrying amount at January 1, 2019	**39**	**2**	**7**	**48**
Charged/(credited) to the consolidated statement of operations:				
Additional provisions	11	2	3	16
Reversal of unutilized amounts	—	—	(2)	(2)
Exchange differences	2	—	—	2
Utilized	(47)	—	(2)	(49)
Carrying amount at December 31, 2019	**5**	**4**	**6**	**15**
Charged/(credited) to the consolidated statement of operations:				
Additional provisions	2	9	9	20
Reversal of unutilized amounts	(1)	(2)	(6)	(9)
Exchange differences	—	—	—	—
Utilized	(2)	—	(2)	(4)
Carrying amount at December 31, 2020	**4**	**11**	**7**	**22**
As at December 31, 2019				
Current portion	**5**	**4**	**4**	**13**
Non-current portion	—	—	**2**	**2**
As at December 31, 2020				
Current portion	**4**	**11**	**5**	**20**
Non-current portion	—	—	**2**	**2**

Legal contingencies

Various legal actions, proceedings, and claims are pending or may be instituted or asserted against the Group. The results of such legal proceedings are difficult to predict and the extent of the Group's financial exposure is difficult to estimate. The Group records a provision for contingent losses when it is both probable that a liability has been incurred, and the amount of the loss can be reasonably estimated.

Between December 2015 and January 2016, two putative class action lawsuits were filed against Spotify USA Inc. in the U.S. District Court for the Central District of California, alleging that the Group unlawfully reproduced and distributed musical compositions without obtaining licenses. These cases were subsequently consolidated in May 2016 and transferred to the U.S. District Court for the Southern District of New York in October 2016, as *Ferrick et al. v. Spotify USA Inc.*, No. 1:16-cv-8412-AJN (S.D.N.Y.). In May 2017, the parties reached a signed class action settlement agreement pursuant to which the Group will be responsible for (i) a US$43 million cash payment to a fund for the class, (ii) all settlement administration and notice costs, expected to be between US$1 million and US$2 million, (iii) a direct payment of class counsel's attorneys' fees of up to US$5 million dollars, (iv) future royalties for any tracks identified by claimants, as well as other class members who provide proof of ownership following the settlement, and (v) reserving future royalties for unmatched tracks. On May 22, 2018, the court granted final approval of the settlement. All appeals of the court's final approval have been dismissed, and the April 15, 2019 deadline for appellants to appeal to the U.S. Supreme Court has passed, and thus the settlement is now effective.

Even with the effectiveness of the settlement, we may still be subject to claims of copyright infringement by rights holders who have purported to opt out of the settlement or who may not otherwise be covered by its terms. Between July 2017 and December 2017, six lawsuits alleging unlawful reproduction and distribution of musical compositions have been filed against the Group in (i) the U.S. District Court for the Middle District of Tennessee (*Bluewater Music Services Corporation v. Spotify USA Inc.*, No. 3:17-cv-1051; *Gaudio et al. v. Spotify USA Inc.*, No. 3:17-cv-1052; *Robertson et al. v. Spotify USA Inc.*, No. 3:17-cv-1616; and *A4V Digital, Inc. et al. v. Spotify USA Inc.*, 3:17-cv-1256), (ii) in the U.S. District Court for the Southern District of Florida (*Watson Music Group, LLC v. Spotify USA Inc.*, No. 0:17-cv-62374), and (iii) the U.S. District Court for the Central District of California (*Wixen Music Publishing Inc. v. Spotify USA, Inc.*, 2:17-cv-9288). The complaints sought an award of damages, including the maximum statutory damages allowed under U.S. copyright law of US$150,000 per work infringed. The *Wixen v. Spotify* lawsuit was voluntarily dismissed on December 20, 2018 after the parties reached a mutual settlement. The *Watson v. Spotify* lawsuit was voluntarily dismissed on April 24, 2019 following the resolution of all appeals of the *Ferrick* class action settlement. As of December 31, 2020, the *Robertson v. Spotify*, *Bluewater v. Spotify*, *Gaudio v. Spotify*, and *A4V v. Spotify* lawsuits have all been dismissed.

The Music Modernization Act of 2018 contains a limitation of liability with respect to such lawsuits filed on or after January 1, 2018. Rights holders may nevertheless file lawsuits, and may argue that they should not be bound by this limitation of liability. For example, in August 2019, the Eight Mile Style, LLC et al v. Spotify USA Inc., No. 3:19-cv-00736-AAT, lawsuit was filed against us in the U.S. District Court for the Middle District of Tennessee, alleging both that the Group does not qualify for the limitation of liability in the Music Modernization Act and that the limitation of liability is unconstitutional and thus not valid law. The Group intends to vigorously defend this lawsuit, including plaintiffs' challenges to the limitation of liability in the Music Modernization Act.

Indirect tax

The Group has indirect tax provisions which relate primarily to potential non-income tax obligations in various jurisdictions. The Group recognizes provisions for claims or indirect taxes when it determines that an unfavorable outcome is probable and the amount of loss can be reasonably estimated.

Other

The Group has obligations under lease agreements to return the leased assets to their original condition. An obligation to return the leased asset to their original condition upon expiration of the lease is accounted for as asset retirement obligations. The obligations are expected to be settled at the end of the lease terms.

24. Financial risk management and financial instruments

Financial risk management

The Group's operations are exposed to financial risks. To manage these risks efficiently, the Group has established guidelines in the form of a treasury policy that serves as a framework for the daily financial operations. The treasury policy stipulates the rules and limitations for the management of financial risks.

Financial risk management is centralized within Treasury who are responsible for the management of financial risks. Treasury manages and executes the financial management activities, including monitoring the exposure of financial risks, cash management, and maintaining a liquidity reserve. Treasury operates within the limits and policies authorized by the Board of Directors.

Capital management

The Group's objectives when managing capital (cash and cash equivalents, short term investments, and equity) is to safeguard the Group's ability to continue as a going concern in order to provide returns for shareholders and to maintain an optimal capital structure to reduce the cost of capital. The Group's capital structure and dividend policy is decided by the Board of Directors. Treasury continuously reviews the Group's capital structure considering, amongst other things, market conditions, financial flexibility, business risk, and growth rate. We have never declared or paid any cash dividends on our share capital, and we do not expect to pay dividends or other distributions on our ordinary shares in the foreseeable future.

On November 5, 2018, Spotify Technology S.A. announced that it would commence a share repurchase program beginning in the fourth quarter of 2018. Repurchases of up to 10,000,000 of the Company's ordinary shares have been authorized by the Company's general meeting of shareholders and the Board of Directors approved such repurchase up to the amount of US$1.0 billion. An aggregate of 4,366,427 ordinary shares for €510 million has been repurchased since the commencement of the share repurchase program. All repurchases were conducted during 2018 and 2019. The authorization to repurchase program will expire on April 21, 2021 unless renewed by decision of a general meeting of shareholders. The timing and actual number of shares repurchased depends on a variety of factors, including price, general business and market conditions, and alternative investment opportunities. The repurchase program is executed consistent with the Group's capital allocation strategy of prioritizing investment to grow the business over the long term. Under the repurchase program, repurchases can be made from time to time using a variety of methods, including open market purchases, all in compliance with the rules of the Commission and other applicable legal requirements. The repurchase program does not obligate the Company to acquire any particular amount of ordinary shares, and the repurchase program may be suspended or discontinued at any time at the Company's discretion. The Group uses current cash and cash equivalents and the cash flow it generates from operations to fund the share repurchase program.

The Group is not subject to any externally imposed capital requirements.

Credit risk management

Financial assets with respect to cash and cash equivalents and short term investments carry an element of risk that counterparties may be unable to fulfill their obligations. This exposure arises from the investments in liquid funds of banks and other counterparties. The Group mitigates this risk by adopting a risk averse approach in relation to the investment of surplus cash. The main objectives for investments are first, to preserve principal and secondarily, to maximize return given the rules and limitations of the treasury policy. Surplus cash is invested in counterparties and instruments considered to carry low credit risk. Investments are subject to credit rating thresholds and at the time of investment, no more than 10% of surplus cash can be invested in any one issuer (excluding certain government bonds and investments in cash management banks). The weighted-average maturity of the portfolio shall not be greater than 2 years, and the final maturity of any investment is not to exceed 5 years. The Group shall maintain the ability to liquidate the majority of all investments (classified as cash and cash equivalents and short term investments) within 90 days. At December 31, 2020 and 2019, the financial credit risk was equal to the consolidated statement of financial position value of cash and cash equivalents and short term investments of €1,747 million and €1,757 million, respectively. No credit losses were incurred during 2020 or 2019 on these investments.

The credit risk with respect to the Group's trade receivables is diversified geographically and among a large number of customers, private individuals, as well as companies in various industries, both public and private. The majority of the Group's revenue is paid monthly in advance significantly lowering the credit risk incurred for these specific counterparties. Solvency information is generally required for credit sales within the Ad sales and Partner subscription business to minimize the risk of bad debt losses and is based on information provided by credit and business information from external sources.

Liquidity risk management

Liquidity risk is the Group's risk of not being able to meet the short term payment obligations due to insufficient funds. The Group has internal control processes and contingency plans for managing liquidity risk. A centralized cash pooling process enables the Group to manage liquidity surpluses and deficits according to the actual needs at the group and subsidiary level. The liquidity management takes into account the maturities of financial assets and financial liabilities and estimates of cash flows from operations.

The Group's policy is to have a strong liquidity position in terms of available cash and cash equivalents, and short term investments.

	2020	2019
	(in € millions)	
Liquidity		
Short term investments	596	692
Cash equivalents	685	585
Cash at bank and on hand	466	480
Liquidity position	**1,747**	**1,757**

Cash equivalents include investments in money market funds measured at fair value and classified as level 1 financial instruments in the fair value hierarchy.

Currency risk management

Transaction exposure relates to business transactions denominated in foreign currency required by operations (purchasing and selling) and/or financing (interest and amortization). The Group's general policy is to hedge a portion of its transaction exposure on a case-by-case basis under the Group's cash-flow hedging program by entering into multiple foreign exchange forward contracts. The Group does not enter into foreign exchange forward contracts greater than one year. The Group's currency pairs used for cash flow hedges are Euro / U.S. dollar, Euro / Australian dollar, Euro / British pound, Euro / Swedish krona, Euro / Canadian dollar, and Euro / Norwegian krone. Translation exposure relates to net investments in foreign operations. The Group does not conduct translation risk hedging.

(i) Transaction exposure sensitivity

In most cases, the Group's customers are billed in their respective local currency. Major payments, such as salaries, consultancy fees, and rental fees are settled in local currencies. Royalty payments are primarily in EUR and USD. Hence, the operational need to net purchase foreign currency is due primarily to a deficit from such settlements.

The table below shows the immediate impact on net loss before tax of a 10% strengthening in the closing exchange rate of significant currencies to which the Group had exposure, at December 31, 2020 and 2019. The impact on net loss is due primarily to monetary assets and liabilities in a transactional currency other than the functional currency of a subsidiary within the Group. The sensitivity associated with a 10% weakening of a particular currency would be equal and opposite. This assumes that each currency moves in isolation.

2020	**SEK**	**USD**
	(in € millions)	
(Increase)/decrease in loss before tax	(13)	67

2019	**SEK**	**USD**
	(in € millions)	
(Increase)/decrease in loss before tax	(13)	121

(ii) Translation exposure sensitivity

Translation exposure exists due to the translation of the results and financial position of all of the Group entities that have a functional currency different from the presentation currency of Euro. The impact on the Group's equity would be approximately €105 million and €50 million if the EUR weakened by 10% against all translation exposure currencies, based on the exposure at December 31, 2020 and 2019, respectively.

Interest rate risk management

Interest rate risk is the risk that changes in interest rates will have a negative impact on the Group's earnings and cash flow. The Group's exposure to interest rate risk is related to its interest-bearing assets, primarily its debt securities held at fair value through other comprehensive income. Fluctuations in interest rates impact the yield of the investment. The sensitivity analysis considered the historical volatility of short term interest rates and determined that it was reasonably possible that a change of 100 basis points could be experienced in the near term. A hypothetical 100 basis points increase in interest rates would have impacted interest income by €6 million for both the years ended December 31, 2020 and 2019.

Financing risk management

The Group finances its operations through external borrowings, equity, and cash flow from operations. The funding strategy has been to diversify funding sources. Historically, the external debt consisted of the Convertible Notes and finance leases.

Share price risk management

Share price risk is the risk that the fair value or future cash flows of a financial instrument will fluctuate due to changes in the fair value of the Company's ordinary share price. The Group's exposure to this risk relates primarily to the outstanding warrants.

The warrants are re-measured at each reporting date using valuation models using input data based on the Company's share price. Changes in the fair value of these instruments are recognized in finance income or cost. An increase of share price will increase the value of the warrants. The Group has not entered into any hedging arrangement to mitigate these fluctuations.

Other share price risk

Social costs are payroll taxes associated with employee salaries and benefits, including share-based compensation that the Group is subject to in various countries in which the Group operates. Social costs are accrued at each reporting period based on the number of vested stock options and awards outstanding, the exercise price, and the Company's share price. Changes in the accrual are recognized in operating expenses. An increase in share price will increase the accrued expense for social costs, and when the share price decreases, the accrued expense will become a reduction in social costs expense, all other things being equal, including the number of vested stock options and exercise price remaining constant. The impact on the accrual for social costs on outstanding share based payment awards of an increase or decrease in the Company's ordinary share price of 10% would result in a change of €27 million and €14 million at December 31, 2020 and December 31, 2019, respectively.

Investment risk

The Group is exposed to investment risk as it relates to changes in the market value of its long term investments, due primarily to volatility in the share price used to measure the investment and exchange rates. The majority of the Group's long term investments relate to TME.

Insurance risk management

Insurance coverage is governed by corporate guidelines and includes a common package of different property and liability insurance programs. The business is responsible for assessing the risks to decide the extent of actual coverage. Treasury manages the common Group insurance programs.

Financial instruments

Foreign exchange forward contracts

Cash flow hedges

The notional principal of the foreign exchange contracts was approximately €1,695 million and €1,538 million as of December 31, 2020 and 2019, respectively. The following table summarizes the notional principal of the foreign currency exchange contracts by hedged line item in the statement of operations as of December 31, 2020:

	Notional amount in foreign currency					
	Australian dollar (AUD)	British pound (GBP)	Canadian dollar (CAD)	Norwegian krone (NOK)	Swedish krona (SEK)	U.S. dollar (USD)
	(in millions)					
Hedged line item in consolidated statement of operations						
Revenue	274	379	239	809	1,384	32
Cost of revenue	199	274	166	543	938	24
Total	**473**	**653**	**405**	**1,352**	**2,322**	**56**

The following table summarizes the notional principal of the foreign currency exchange contracts by hedged line item in the statement of operations as of December 31, 2019:

	Notional amount in foreign currency					
	Australian dollar (AUD)	British pound (GBP)	Canadian dollar (CAD)	Norwegian krone (NOK)	Swedish krona (SEK)	U.S. dollar (USD)
	(in millions)					
Hedged line item in consolidated statement of operations						
Revenue	226	328	194	739	1,221	38
Cost of revenue	176	242	141	499	832	29
Total	**402**	**570**	**335**	**1,238**	**2,053**	**67**

Fair values

The carrying amounts of certain financial instruments, including cash and cash equivalents, trade and other receivables, restricted cash, trade and other payables, and accrued expenses and other liabilities approximate fair value due to their relatively short maturities. The Group measures its lease liabilities as described in Note 2. All other financial assets and liabilities are accounted for at fair value.

The following tables summarize, by major security type, the Group's financial assets and liabilities that are measured at fair value on a recurring basis, and the category using the fair value hierarchy. The different levels have been defined in Note 2.

Financial assets and liabilities by fair value hierarchy level	Level 1	Level 2	Level 3	December 31, 2020
		(in € millions)		
Financial assets at fair value				
Cash equivalents:				
Money market funds	685	—	—	685
Short term investments:				
Money market funds	25	—	—	25
Government securities	198	31	—	229
Agency securities	—	4	—	4
Corporate notes	—	276	—	276
Collateralized reverse purchase agreements	—	62	—	62
Derivatives (designated for hedging):				
Foreign exchange forwards	—	12	—	12
Long term investments	2,228	—	49	2,277
Total financial assets at fair value by level	**3,136**	**385**	**49**	**3,570**
Financial liabilities at fair value				
Derivatives (not designated for hedging):				
Warrants	—	—	89	89
Derivatives (designated for hedging):				
Foreign exchange forwards	—	16	—	16
Contingent consideration	—	—	30	30
Total financial liabilities at fair value by level	**—**	**16**	**119**	**135**

Financial assets and liabilities by fair value hierarchy level	Level 1	Level 2	Level 3	December 31, 2019
		(in € millions)		
Financial assets at fair value				
Cash equivalents				
Money market funds	585	—	—	585
Short term investments:				
Government securities	229	39	—	268
Agency securities	—	5	—	5
Corporate notes	—	263	—	263
Collateralized reverse purchase agreements	—	156	—	156
Derivatives (designated for hedging):				
Foreign exchange forwards	—	8	—	8
Long term investments	1,481	—	16	1,497
Total financial assets at fair value by level	**2,295**	**471**	**16**	**2,782**
Financial liabilities at fair value				
Derivatives (not designated for hedging):				
Warrants	—	—	98	98
Derivatives (designated for hedging):				
Foreign exchange forwards	—	13	—	13
Contingent consideration	—	—	27	27
Total financial liabilities at fair value by level	**—**	**13**	**125**	**138**

The Group's policy is to recognize transfers into and transfers out of fair value hierarchy levels at the end of each reporting period. During the years ended December 31, 2020 and 2019 there were no transfers between levels in the fair value hierarchy.

Recurring fair value measurements

Long term investment – Tencent Music Entertainment Group

The Group's approximate 8% investment in TME is carried at fair value through other comprehensive income. Prior to December 12, 2018, the fair value of unquoted ordinary shares of TME had been estimated using unquoted TME market transactions, the latest fair value per ordinary share disclosed within TME's initial registration statement on Form F-1 filed with the SEC and other unobservable inputs. Subsequent to December 12, 2018, the fair value of ordinary shares of TME is based on the ending NYSE American depository share price. Accordingly, the entire balance of the Group's investment in TME of €1,630 million was transferred from level 3 to level 1 within the fair value hierarchy in accordance with IFRS 7. The fair value of the long term investments may vary over time and is subject to a variety of risks including: company performance, macro-economic, regulatory, industry, USD to Euro exchange rate, and systemic risks of the equity markets overall.

The table below presents the changes in the investment in TME:

	2020	2019	2018
		(in € millions)	
At January 1	**1,481**	**1,630**	**910**
Changes in fair value recorded in other comprehensive loss	747	(149)	720
At December 31	**2,228**	**1,481**	**1,630**

The impact on the fair value of the Group's long term investment in TME using reasonably possible alternative assumptions with an increase or a decrease of TME's share price used to value its equity interests of 10% results in a range of €2,005 million to €2,451 million at December 31, 2020 and €1,333 million to €1,629 million at December 31, 2019.

The following sections describe the valuation methodologies the Group uses to measure its Level 3 financial instruments at fair value on a recurring basis.

Fair value of ordinary shares

On April 3, 2018, the Group completed a direct listing of the Company's ordinary shares on the NYSE. The fair value of the Company's ordinary shares subsequent to the direct listing is based on the NYSE closing ordinary share price of the Group.

The valuation of certain items in the consolidated financial statements prior to the direct listing was consistent with the Group's use of the Probability Weighted Expected Return Method ("PWERM") to value the Company's ordinary shares.

The fair value of the ordinary shares prior to the direct listing was determined using recent secondary market transactions in the Company's ordinary shares and the PWERM, which is one of the recommended valuation methods to measure fair value in privately held companies with complex equity structures in the American Institute of Certified Public Accountants Practice Guide, *Valuation of Privately-Held-Company Equity Securities Issued as Compensation*. Under this method, discrete future outcomes, including as a public company, non-public company scenarios, and a merger or sale, are weighted based on estimates of the probability of each scenario. In the Group's application of this method, five different future scenarios are identified (high and low case public company, high and low case transaction, and private company). For each scenario, an equity value is calculated based on revenue multiples, derived from listed peer companies, which are applied on different (scenario-dependent) forecasted revenue. For the private company scenario, a discounted cash flow method also is considered in determining the equity value. Ordinary share values are weighted by the probability of each scenario in the valuation model. In addition, an appropriate discount adjustment is incorporated to recognize the lack of marketability due to being a closely held entity. Finally, the impact on the share value of recent financing and secondary trading is considered.

The following weightings, up until the Group's direct listing, were applied to each valuation method:

	2018
PWERM	50 %
Secondary market transactions	50 %

The PWERM valuations, up until the Group's direct listing, weighted the different scenarios as follows:

	2018
Market Approach – High Case Public Company	55 – 70%
Market Approach – Low Case Public Company	28 – 35%
Market Approach – High Case Transaction	0 – 3%
Market Approach – Low Case Transaction	0 – 2%
Private Case – Income and Market Approaches	2 – 5%

The key assumptions used to estimate the fair value of the ordinary shares and contingent options using the PWERM, up until the Group's direct listing, were as follows:

	2018
Revenue multiple used to estimate enterprise value	3.0
Discount rate (%)	13
Volatility (%)	32.5 – 35.0

Warrants

On October 17, 2016, the Company sold, for €27 million, warrants to acquire 5,120,000 ordinary shares to certain holders that are employees and management of the Group. The exercise price of each warrant is US$50.61, which was equal to 1.2 times the fair market value of ordinary shares on the date of issuance.

On July 13, 2017, the Company sold, for €9 million, a warrant to acquire 1,600,000 ordinary shares to certain holders that are employees and management of the Group. The exercise price of each warrant is US$89.73, which was equal to 1.3 times the fair market value of ordinary shares on date of issuance. The warrants are exercisable at any time through July 2020.

On July 1, 2019, the Company sold, for €15 million, warrants to acquire 800,000 ordinary shares to Mr. Ek, through D.G.E. Investments Limited, an entity indirectly wholly owned by him. The exercise price of each warrant is US$190.09, which was equal to 1.3 times the fair market value of ordinary shares on the date of issuance. The warrants are exercisable at any time through July 1, 2022.

On October 4, 2019, the Company issued 1,600,000 ordinary shares upon the exercise of 1,600,000 warrants that were granted on October 17, 2016, for cash of €74 million. On October 17, 2019, the Company issued 1,991,627 shares upon the effective net settlement of the remaining 3,520,000 warrants that were granted on October 17, 2016. Refer to Note 26.

On July 13, 2020, the Company issued 1,084,043 ordinary shares to Mr. Ek, through D.G.E. Investments Limited, upon the effective net settlement of the 1,600,000 warrants that were granted on July 13, 2017. Refer to Note 26.

The outstanding warrants are measured on a recurring basis in the consolidated statement of financial position and are Level 3 financial instruments recognized at fair value through the consolidated statement of operations. The warrants are valued using a Black-Scholes option-pricing model, which includes inputs determined from models that include the value of the Company's ordinary shares, as determined above and additional assumptions used to estimate the fair value of the warrants in the option pricing model as follows:

	2020	2019	2018
Expected term (years)	1.5	0.5 – 2.5	0.8 – 1.5
Risk free rate (%)	0.11	1.58 – 1.59	2.55 – 2.58
Volatility (%)	50.0 %	32.5 %	40.0 %
Share price (US$)	314.66	149.55	113.50

The table below presents the changes in the warrants liability:

	2020	2019	2018
	(in € millions)		
January 1	**98**	**333**	**346**
Issuance of warrant for cash	—	15	—
Issuance of shares upon exercise of, or net settlement of, warrants	(267)	(303)	—
Non cash changes recognized in profit or loss			
Changes in fair value	263	35	(39)
Effect of changes in foreign exchange rates	(5)	18	26
At December 31	**89**	**98**	**333**

The warrant liability is included in derivative liabilities on the consolidated statement of financial position. The change in estimated fair value is recognized within finance income or costs in the consolidated statement of operations.

The impact on the fair value of the warrants with an increase or decrease in the Company's ordinary share price of 10% results in a range of €72 million to €106 million at December 31, 2020 and €75 million to €127 million at December 31, 2019.

Long term investments – Other

The Group has interests in certain long term investments. The majority of these investments are in unlisted equity securities carried at fair value through other comprehensive income. The fair value of these equity investments are generally determined by (i) applying market multiples to the projected financial performance and (ii) discounting the future value to its present value equivalent. The key assumptions used to estimate the fair value of these equity investments include the exit multiple used to estimate business enterprise value and discount rate.

The fair value of the long term investments may vary over time and is subject to a variety of risks including: company performance, macro-economic, regulatory, industry, USD to Euro exchange rate, and systemic risks of the equity markets overall.

The table below presents the changes in the other long term investments:

	2020	2019	2018
	(in € millions)		
At January 1	**16**	**16**	**—**
Initial recognition of long term investment	9	—	16
Changes in fair value recorded in other comprehensive income	29	—	—
Changes in fair value recognized in profit or loss	(5)	—	—
At December 31	**49**	**16**	**16**

Contingent consideration

On April 1, 2019, the Group acquired Cutler Media, LLC ("Parcast"), a premier storytelling podcast studio. Included in the purchase price was €13 million related to the estimated fair value of contingent consideration. The contingent consideration is valued by the Group using a simulation of user engagement outcomes. The change in the fair value of the contingent consideration is recognized within general and administrative expenses in the consolidated statement of operations.

The table below presents the changes in the contingent consideration liability:

	2020	2019
	(in € millions)	
At January 1	**27**	**—**
Initial recognition of contingent consideration included in purchase consideration of acquisition	—	13
Contingent consideration payments	(7)	—
Changes in fair value recognized in profit or loss	13	14
Effect of changes in foreign exchange rates	(3)	—
At December 31	**30**	**27**

As of December 31, 2020, the remaining maximum potential contingent consideration payout is €33 million over the next two years.

Convertible Notes

On April 3, 2018, the Group completed a direct listing of the Company's ordinary shares on the NYSE, and the option for the Convertible Noteholders to unwind the January 2018 exchange transaction expired. As a result, the Group recorded an expense of €123 million within finance costs to mark to market the Convertible Notes to the fair value based on the closing price of the Company's ordinary shares on April 3, 2018. The Company then reclassified the Convertible Notes balance of €1.1 billion to Other paid in capital within Equity. Refer to Note 20.

The table below presents the changes in the Convertible Notes:

	2018
	(in € millions)
At January 1	**944**
Non cash changes recognized in consolidated statement of operations	
Changes in fair value	221
Effect of changes in foreign exchange rates	(20)
Issuance of shares upon exchange of Convertible Notes	(1,145)
At December 31	**—**

The change in estimated fair value is recognized within finance costs in the consolidated statement of operations.

25. Commitments and contingencies

Obligations under leases

See Note 12 for lease obligations.

Commitments

The Group is subject to the following minimum guarantees relating to the content on its service, the majority of which relate to minimum royalty payments associated with its license agreements for the use of licensed content, as at December 31:

	2020	2019	2018
		(in € millions)	
Not later than one year	317	657	548
Later than one year but not more than 5 years	3,259	383	152
	3,576	**1,040**	**700**

In addition to the minimum guarantees listed above, the Group is subject to various non-cancelable purchase obligations and service agreements with minimum spend commitments, including a service agreement with Google for the use of Google Cloud Platform and certain podcast commitments as at December 31:

	2020	2019	2018
	(in € millions)		
Not later than one year	279	56	22
Later than one year but not more than 5 years	619	144	271
	898	**200**	**293**

Contingencies

Various legal actions, proceedings, and claims are pending or may be instituted or asserted against the Group. These may include but are not limited to matters arising out of alleged infringement of intellectual property; alleged violations of consumer regulations; employment-related matters; and disputes arising out of supplier and other contractual relationships. As a general matter, the music and other content made available on the Group's service are licensed to the Group by various third parties. Many of these licenses allow rights holders to audit the Group's royalty payments, and any such audit could result in disputes over whether the Group has paid the proper royalties. If such a dispute were to occur, the Group could be required to pay additional royalties, and the amounts involved could be material. The Group expenses legal fees as incurred. The Group records a provision for contingent losses when it is both probable that a liability has been incurred and the amount of the loss can be reasonably estimated. An unfavorable outcome to any legal matter, if material, could have an adverse effect on the Group's operations or its financial position, liquidity, or results of operations.

On February 25, 2019, Warner/Chappell Music Limited ("WCM") filed a lawsuit against the Group in the High Court of Bombay, India, alleging that the Group sought to exploit WCM's copyrights in musical compositions in India without obtaining a license. On January 13, 2020, WCM and the Group resolved the dispute, and on January 14, 2020, the High Court of Bombay, India, disposed of the lawsuit. On April 22, 2019, Saregama India Limited ("Saregama") filed a lawsuit against us in the High Court of Delhi, India, alleging copyright infringement, and has sought injunctive relief. Saregama and the Group resolved the dispute via an agreement dated March 30, 2020.

On August 11, 2020, the United States Court of Appeals for the D.C. Circuit issued an opinion which, as of the issuance of the formal "mandate" on October 26, 2020, vacated the Copyright Royalty Board's determination of the royalty rates for applicable mechanical rights in the United States for calendar years 2018 to 2022. These rates apply both to compositions that we license under compulsory license pursuant to Section 115 of the Copyright Act of 1976 and to a number of direct licenses that we have with music publishers. Until the final rates are determined, our recorded royalty costs, both retrospectively and prospectively, will be based on management estimates of the rates that will apply. When the rates are determined anew, these could either benefit or adversely affect our results of operations and financial condition.

26. Related party transactions

Key management compensation

Key management includes members of the Company's senior management and the board of directors. The compensation paid or payable to key management for Board and employee services includes their participation in share-based compensation arrangements. The disclosure amounts are based on the expense recognized in the consolidated statement of operations in the respective year.

	2020	2019	2018
	(in € millions)		
Key management compensation			
Short term employee benefits	5	5	4
Share-based compensation	30	22	19
Termination benefits	—	—	1
	35	**27**	**24**

On July 1, 2019, the Company issued, for €15 million, warrants to acquire 800,000 ordinary shares to Mr. Ek, through D.G.E. Investments Limited. The exercise price of each warrant is US$190.09, which was equal to 1.3 times the fair market value of ordinary shares on the date of issuance. The warrants are exercisable at any time through July 1, 2022.

On October 4, 2019, the Company issued 1,600,000 ordinary shares and 16,000,000 beneficiary certificates to Mr. Ek, through D.G.E. Investments Limited, upon the exercise of 1,600,000 warrants that were granted on October 17, 2016, for cash of €74 million.

On October 17, 2019, the Company issued 905,285 ordinary shares and 9,052,850 beneficiary certificates to Mr. Ek, through D.G.E. Investments Limited, upon the effective net settlement of the remaining 1,600,000 warrants that were granted on October 17, 2016.

On October 17, 2019, the Company issued 1,086,342 ordinary shares and 10,863,420 beneficiary certificates to Martin Lorentzon, a member of the Board of Directors of the Company, through Rosello Company Limited, an entity indirectly wholly owned by him, upon the effective net settlement of 1,920,000 warrants that were granted on October 17, 2016.

On July 13, 2020, the Company issued 1,084,043 ordinary shares and 10,840,430 beneficiary certificates to Mr. Ek, through D.G.E. Investments Limited, upon the effective net settlement of the 1,600,000 warrants that were granted on July 13, 2017.

During the year ended December 31, 2020, the Company issued 5,038,200 ordinary shares to its Netherlands subsidiary at par value and subsequently repurchased those shares at the same price. These shares are held in treasury in order to facilitate the fulfillment of option exercises and restricted stock unit releases under the Company's stock option and restricted stock unit plans. There were no such transactions during the year ended December 31, 2019.

27. Group information

The Company's principal subsidiaries as at December 31, 2020 are as follows:

Name	Principal activities	Proportion of voting rights and shares held (directly or indirectly)	Country of incorporation
Spotify AB	Main operating company	100 %	Sweden
Spotify USA Inc.	USA operating company	100 %	USA
Spotify Ltd	Sales, marketing, contract research and development, and customer support	100 %	UK
Spotify Spain S.L.	Sales and marketing	100 %	Spain
Spotify GmbH	Sales and marketing	100 %	Germany
Spotify France SAS	Sales and marketing	100 %	France
Spotify Netherlands B.V.	Sales and marketing	100 %	Netherlands
Spotify Canada Inc.	Sales and marketing	100 %	Canada
Spotify Australia Pty Ltd	Sales and marketing	100 %	Australia
Spotify Brasil Serviços De Música LTDA	Sales and marketing	100 %	Brazil
Spotify Japan K.K	Sales and marketing	100 %	Japan
Spotify India LLP	Sales and marketing	100 %	India
S Servicios de Música México, S.A. de C.V.	Sales and marketing	100 %	Mexico
Spotify Singapore Pte Ltd.	Marketing	100 %	Singapore

There are no restrictions on the net assets of the Group companies.

COEX-
8.51

Exhibit 1.1

« SPOTIFY TECHNOLOGY S.A. »

société anonyme

L-1610 Luxembourg, 42-44, Avenue de la Gare

R.C.S. Luxembourg, section B numéro 123 052

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STATUTS COORDONNES à la date du **20 janvier 2021**

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CHAPTER I. FORM, NAME, REGISTERED OFFICE, OBJECT, DURATION

Article 1.- Form, Name

The company is formed as a "société anonyme", governed by the laws of the Grand Duchy of Luxembourg, especially the law of August 10th, 1915 on commercial companies (the "**Law**"), as amended, and by the present articles of association (the "**Articles of Association**") (the "**Company**").

The Company exists under the name of "**SPOTIFY TECHNOLOGY S.A.**".

Article 2.- Registered Office

2.1. The registered office of the Company is established in the City of Luxembourg.

2.2. The registered office may be transferred to any other place within the City of Luxembourg or to any other municipality in the Grand Duchy of Luxembourg by a resolution of the Board of Directors. Branches or other offices may be established either in the Grand Duchy of Luxembourg or abroad by resolution of the Board of Directors. Subsequently, the Board of Directors is authorized to amend the Articles of Association to reflect the change of municipality of the registered office of the Company and to record it in front of a notary.

2.3. In the event that in the view of the Board of Directors extraordinary political, economic or social developments occur or are imminent that would interfere with the normal activities of the Company at its registered office or with the ease of communications with such office or between such office and persons abroad, it may temporarily transfer the registered office abroad, until the complete cessation of these abnormal circumstances. Such temporary measures will have no effect on the nationality of the Company, which, notwithstanding the temporary transfer of the registered office, will remain a company governed by the laws of the Grand Duchy of Luxembourg.

Article 3.- Object

3.1. The object of the Company is the acquisition and holding of direct or indirect interests in Luxembourg and/or in foreign undertakings, as well as the administration, development and management of its holdings.

3.2. The Company may provide any financial assistance to subsidiaries, affiliated companies or other companies forming part of the group of which the Company belongs, such as, among others, the providing of loans and the granting of guarantees or securities in any kind or form.

3.3. The Company may also use its funds to invest in real estate, in intellectual property rights or any other movable or immovable assets in any kind or form.

3.4. The Company may borrow in any kind or form and privately issue bonds or notes.

3.5. In a general fashion the Company may carry out any commercial, industrial or financial operation, which it may deem useful in the accomplishment and development of its purposes.

Article 4.- Duration

The Company is established for an unlimited duration. It may be dissolved by a decision of the sole shareholder or by a general meeting of shareholders voting with the quorum and majority rules provided by law and the present Articles of Association.

CHAPTER II. CAPITAL, SHARES

Article 5.- Capital

5.1. The corporate subscribed share capital is set at one hundred twenty-one thousand nine euro point three one eight seven five (EUR 121,009.31875) divided into one hundred and ninety-three million six hundred and fourteen thousand nine hundred and ten (193,614,910) shares having a nominal value of zero point zero zero zero six hundred twenty-five euro (0.000625 EUR) each.

5.2. The company's authorized share capital is fixed at one hundred thirty thousand eight hundred eighty-six euro point zero zero six two five (EUR 130,886.00625) divided into two hundred and nine million four hundred and seventeen thousand six hundred and ten (209,417,610) shares with a nominal value of zero point zero zero zero six hundred twenty-five euro (0.000625 EUR) each.

5.3. The Board of Directors is authorized to sub-delegate to one of the Company's Directors or officer of the Company or to any other duly authorized person, during a period ending five (5) years after the date of publication of the minutes of the extraordinary general meeting of shareholders held on 14 March 2018, in the RESA, Recueil Electronique des Sociétés et Associations, (i) to realise any increase of the corporate capital within the limits of the authorized capital in one or several successive tranches, by the issue of new ordinary shares, with or without share premium, in consideration for a payment in cash or in kind (a) following the exercise of subscription rights and/or (b) following the exercise of conversion rights granted by the Board of Directors under the terms of warrants (which may be separate or attached to ordinary shares, notes or similar instruments), convertible notes or similar instruments issued from time to time by the Company, (c) by conversion of claims or (d) in any other manner; (ii) to determine the place and date of the issue, the issue price, the terms and conditions of the subscription and the payment of the newly issued ordinary shares; and (iii) to withdraw or restrict the preferential subscription right of the shareholders.

5.4. The ordinary shares may be issued above, at, or below market value, but in any event not below the nominal value or below the accounting par value per ordinary share.

Article 6.- Shares

6.1. The ordinary shares are and shall remain in registered form only.

6.2. No fractional ordinary share shall be issued or exist at any time. The Board of Directors shall however be authorized to provide at its discretion for the payment in cash in lieu of any fraction of an ordinary share of the Company.

6.3. Ordinary shares may be held in trust by one or several shareholders.

6.4. A register of shareholders will be kept by the Company at its registered office, where it will be available for inspection by any shareholder. This register will contain the precise designation of each shareholder and the indication of the number of ordinary shares held, the indication of the payments made on the ordinary shares as well as the transfers of ordinary shares and the dates thereof. Ownership of ordinary shares will be established by inscription in the said register or in the event separate registrars have been appointed pursuant to Article 6.5, in such separate register(s). Without prejudice to the conditions for transfer by book entries provided for in Article 6.7 of these Articles of Association, a transfer of ordinary shares shall be

carried out by means of a declaration of transfer entered in the relevant register, dated and signed by the transferor and the transferee or by their duly authorized representatives or by the Company upon notification of the transfer or acceptance of the transfer by the Company. The Company may accept and enter in the relevant register a transfer on the basis of correspondence or other documents recording the agreement between the transferor and the transferee.

6.5. The Company may appoint registrars in different jurisdictions who may each maintain a separate register for the ordinary shares entered therein. Shareholders may elect to be entered into one of these registers and to transfer their ordinary shares to another register so maintained. The Board of Directors may however impose transfer restrictions for ordinary shares that are registered, listed, quoted, dealt in or have been placed in certain jurisdictions in compliance with the requirements applicable therein. A transfer to the register kept at the Company's registered office may always be requested.

6.6. Subject to the provisions of these Article 6.7 and Article 6.9, the Company may consider the person in whose name the ordinary shares are registered in the register of shareholders as the full owner of such shares. In the event that a holder of ordinary shares does not provide an address in writing to which all notices or announcements from the Company may be sent, the Company may permit a notice to this effect to be entered into the register of shareholders and such holder's address will be deemed to be at the registered office of the Company or such other address as may be so entered by the Company from time to time, until a different address shall be provided to the Company by such holder in writing. The holder may, at any time, change his address as entered in the register of shareholders by means of written notification to the Company.

6.7. The ordinary shares may be held by a holder (the "**Holder**") through a securities settlement system or a Depositary (as this term is defined below). The Holder of ordinary shares held in such fungible securities accounts has the same rights and obligations as if such Holder held the ordinary shares directly. The ordinary shares held through a securities settlement system or a Depositary shall be recorded in an account opened in the name of the Holder and may be transferred from one account to another in accordance with customary procedures for the transfer of securities in book-entry form. However, the Company will make dividend payments, if any, and any other payments in cash, ordinary shares or other securities, if any, only to the securities settlement system or Depositary recorded in the register of shareholders or in accordance with the instructions of such securities settlement system or Depositary. Such payment will grant full discharge of the Company's obligations in this respect.

6.8. In connection with a general meeting of shareholders, the Board of Directors may decide that no entry shall be made in the register of shareholders and no notice of a transfer shall be recognized by the Company and the registrar(s) during the period starting on the Record Date (as hereinafter defined) and ending on the closing of such general meeting.

6.9. All communications and notices to be given to a registered shareholder shall be deemed validly made if made to the latest address communicated by the shareholder to the Company in accordance with Article 6.5 or, if no address has been communicated by the shareholder, the registered office of the Company or such other address as may be so entered by the Company in the register from time to time according to Article 6.7.

6.10. Where ordinary shares are recorded in the register of shareholders in the name of or on behalf of a securities settlement system or the operator of such system and recorded as book-entry interests in the accounts of a professional depositary or any sub-depositary (any depositary and any sub-depositary being referred to hereinafter as a "**Depositary**"), the Company - subject to having received from the Depositary a certificate in proper form - will permit the Depositary of such book-entry interests to exercise the rights attaching to the ordinary shares corresponding to the book-entry interests of the relevant Holder, including receiving notices of general meetings, admission to and voting at general meetings, and shall consider the Depositary to be the holder of the ordinary shares corresponding to the book-entry interests for purposes of this Article 6 of the present Articles of Association. The Board of Directors may determine the formal requirements with which such certificates must comply.

Article 7.- Increase and Reduction of Capital

7.1. The authorized capital and the subscribed capital of the Company may be increased or reduced in one or several times by a resolution of the shareholders voting with the quorum and majority rules set by these Articles of Association or, as the case may be, by the law for any amendment of these Articles of Association.

7.2. The subscribed capital of the Company may also be increased in one or several times by a resolution of the Board of Directors within the limits of the authorized capital.

7.3. The new ordinary shares to be subscribed for by contribution in cash will be offered by preference to the existing shareholders in proportion to the part of the capital which those shareholders are holding. The Board of Directors shall determine the period within which the preferred subscription right shall be exercised. This period may not be less than fourteen days from the date of dispatch of a registered mail or any other means of communication individually accepted by the addressees and ensuring access to the information sent to the shareholders announcing the opening of the subscription period.

7.4. Notwithstanding the above, the general meeting, voting with the quorum and majority rules required for any amendment of the Articles of Association, may suppress, waive or limit the preferential subscription right or authorize the Board of Directors to do so, to the extent that the Board of Directors deems such suppression, waiver or limitation advisable for any issuance or issuances of shares within the scope of the authorized share capital.

7.5. If after the end of the subscription period not all of the preferential subscription rights offered to the existing shareholder(s) have been subscribed by the latter, third parties may be allowed to participate in the share capital increase, except if the Board of Directors decides that the preferential subscription rights shall be offered to the existing shareholders who have already exercised their rights during the subscription period, in proportion to the portion their ordinary shares represent in the share capital; the modalities for the subscription are determined by the Board of Directors. The Board of Directors may also decide in such case that the share capital shall only be increased by the amount of subscriptions received by the shareholder(s) of the Company.

Article 8.- Acquisition of own shares

The Company may acquire or repurchase its own ordinary shares. The acquisition and holding of its own ordinary shares will be in compliance with the conditions and limits established by the law.

Article 9.- Beneficiary Certificates

9.1. The Company may issue, from time to time, beneficiary certificates ("parts bénéficiaires") having the rights set forth in these Articles of Association (the "**Beneficiary Certificates**"). The Board of Directors is hereby authorized to issue up to one billion four hundred million (1,400,000,000) Beneficiary Certificates without reserving to the existing shareholders a pre-emptive right to subscribe for the Beneficiary Certificates issued. The Beneficiary Certificates may only be issued to shareholders of the Company. The Board of Directors shall determine, in its absolute discretion, to which shareholders such Beneficiary Certificates shall be issued. At the time of their issuance, the Board of Directors shall link the Beneficiary Certificates to one or more ordinary shares of the Company held by the shareholder(s) to whom they are being issued based on a specific ratio applicable to such shareholder as determined by the Board of Directors at time of issuance, with such ratio to be between 1:1 and 20:1 of Beneficiary Certificates to ordinary shares.

9.2. There are currently three hundred and sixty-five million fourteen thousand eight hundred and forty (365,014,840) Beneficiary Certificates outstanding out of the four hundred and eight million nine hundred and fifty-seven thousand four hundred and seventy (408,957,470) Beneficiary Certificates issued.

9.3. In the event that the Board of Directors proceeds to an issue of Beneficiary Certificates in accordance with the provisions of this Article 9, it shall take, or cause to be taken, all steps necessary to amend the Articles of Association to reflect such issuance.

9.4. The Beneficiary Certificates shall be issued in registered form only and the ownership of each Beneficiary Certificate shall be established by an entry in a register of Beneficiary Certificates (the "**BC Register**"). The BC Register shall constitute evidence of ownership of the Beneficiary Certificates and the person whose name appears in the BC Register as a holder shall be treated as the owner of the Beneficiary Certificates registered in his name.

9.5. The BC Register may be maintained by the Company at its registered office or may be entrusted by the Company to a transfer agent. The BC Register shall contain the identity of the holders, the number of Beneficiary Certificates held by each of them as well as their address and the date of entry. In case of transfer, redemption or cancellation in accordance with the provisions of these Articles of Association, appropriate entries shall be made.

The Company shall recognize only one single owner per Beneficiary Certificate. If one or more Beneficiary Certificates are jointly owned, or if fractions of a Beneficiary Certificate are held by several holders or if the ownership of such Beneficiary Certificate(s) is disputed, all persons claiming a right to such Beneficiary Certificate(s), or holding a fraction of a Beneficiary Certificate respectively, have to appoint one single attorney to represent such Beneficiary Certificate(s) towards the Company. The failure to appoint such attorney implies a suspension of the voting right(s) attached to such Beneficiary Certificate(s).

9.6. The Beneficiary Certificates shall not carry any right to participate in any dividend, share premium repayment or any other kind of distributions, including the distribution of any liquidation proceeds, made by the Company.

9.7. Each Beneficiary Certificate shall carry one (1) vote at any general meeting of the Company and each Beneficiary Certificate will be taken into consideration for the calculation of quorum and majority required for any such general meeting of the Company.

9.8. The Beneficiary Certificates may not be transferred and shall automatically be cancelled in case of sale or transfer of the share(s) to which they are linked, provided that exceptions to transfers of Beneficiary Certificates or to their cancellation upon sale or transfer of the respective underlying ordinary shares to which they are linked may be made by the Board of Directors on a case-by-case basis and in its absolute discretion, at which time the Board may also recalculate the ratio and, if applicable, re-allocate any such non-cancelled Beneficiary Certificates to the remaining applicable ordinary shares (which are already linked to other Beneficiary Certificates) on a pro rata basis. In case of any permitted recalculation of ordinary shares as a result of a share split, bonus issue of ordinary shares, subdivision or split of shares or a combination of shares through a reverse split or similar actions, the Beneficiary Certificates shall be treated in the same manner as the ordinary shares to which they are linked.

9.9. In the same manner, all the Beneficiary Certificates shall automatically be cancelled in case the number of ordinary shares held by Rosello Company Limited and D.G.E Investments Ltd, including their respective successors, in the aggregate, falls under seven million five hundred sixty-four thousand six hundred (7,564,600) ordinary shares.

9.10. Any amendment to the rights of the holders of Beneficiary Certificates set out in the Articles of Association shall require a decision of the general meeting of shareholders adopted with the quorum and majority required for an amendment to the Articles of Association. In addition, the same quorum and majority shall also be reached in a meeting of the holders of Beneficiary Certificates as if the same were voting as a separate class.

CHAPTER III. BOARD OF DIRECTORS, STATUTORY AUDITORS

Article 10.- Board of Directors

1. The Company will be managed and administered by a board of directors (the "**Board of Directors**") composed of class A directors (the "**A Directors**") and B Directors (the "**B Directors**") who need not be shareholders (the "**Directors**"). The Board of Directors shall always be composed of at least three (3) Directors.

2. The Directors will be elected by the shareholders' meeting which will determine the duration of their mandate, and they will hold office until their successors are elected. They may be re-elected for successive terms and they may be removed at any time, with or without cause, by a resolution of the shareholders' meeting.

Article 11.- Vacancy in the office of the Board of Directors

In the event of a vacancy in the office of a member of the Board of Directors because of death, legal incapacity, bankruptcy, resignation or otherwise, this vacancy may be filled on a temporary basis and for a period of time not exceeding the initial mandate of the replaced member of the Board of Directors by the remaining members of the Board of Directors until the next general meetings of the shareholders of the Company which shall resolve on the permanent appointment in compliance with the applicable legal provisions and present Articles of Association.

Article 12.- Meetings of the Board of Directors

i. The Board of Directors may appoint from among its members a chairman (the "**Chairman**"). It may also appoint a secretary, who need not be

a Director and who will be responsible for keeping the minutes of the meetings of the Board of Directors and of the shareholders.

ii. The Board of Directors will meet upon call by the Chairman. A meeting of the Board of Directors must be convened if any of two Directors so require.

iii. The Chairman will preside at all meetings of the Board of Directors and of the shareholders (if required), except that in his absence the Board of Directors may appoint another Director and the general meeting of shareholders may appoint any other person as chairman pro tempore by vote of the majority present or represented at such meeting.

iv. Except in cases of urgency or with the prior consent of all those entitled to attend, at least twenty-four hours' written notice of board meetings shall be given in writing, by fax, by mail, by e-mail or by any other mean of written communication. Any such notice shall specify the time and place of the meeting as well as the agenda and the nature of the business to be transacted. The notice may be waived by the consent in writing, by fax, by mail or by e-mail of each Director. No separate notice is required for meetings held at times and places specified in a schedule previously adopted by resolution of the Board of Directors.

v. Every Board meeting shall be held in Luxembourg or such other place as the Board of Directors may from time to time determine.

vi. Any Director may act at any meeting of the Board of Directors by appointing in writing, by fax, by email or by mail another Director as his proxy.

vii. A quorum of the Board of Directors shall be one (1) A Director and one (1) B Director present at the meeting or, in the event that no category A or category B director have been appointed, three (3) Directors holding office. When the Section 303A.03 of the New York Stock Exchange Listed Company Manual requires that, at least once a year, only independent directors of the Company may hold a meeting, the quorum required for a meeting of the Board of Directors can be disregarded and the independent directors must all be present or represented at this meeting.

viii. All business arising at any meeting of the Board of Directors shall be determined by resolution passed by a majority of votes cast. In the case of an equality of votes, the Chairman shall have the right to cast the deciding vote (the "**Casting Vote**"). The Casting Vote shall be personal to the Chairman and will not transfer to any other Director acting as a chairman of a meeting of the Board of Directors in the Chairman's absence.

ix. One or more Directors may participate in a meeting by means of a conference call, by videoconference or by any similar means of communication enabling thus several persons participating therein to simultaneously communicate with each other. Such participation shall be deemed equivalent to a physical presence at the meeting.

x. A written decision, signed by all the Directors, is proper and valid as though it had been adopted at a meeting of the Board of Directors which was duly convened and held. Such a decision can be documented in a single document or in several separate documents having the same content and each of them signed by one or several Directors.

Article 13.- Minutes of Meetings of the Board of Directors

1. The minutes of any meeting of the Board of Directors will be signed by the Chairman of the meeting and by the secretary (if any). Any proxies will remain attached thereto.

2. Copies or extracts of such minutes which may be produced in judicial proceedings or otherwise will be signed by the Chairman and by the secretary (if any) or by any two members of the Board of Directors.

Article 14.- Powers of the Board of Directors

The Board of Directors is vested with the broadest powers (except for those powers which are expressly reserved by law to the sole shareholder or the general meeting of shareholders) to perform all acts necessary or useful for accomplishing the Company's object. All powers not expressly reserved by law or by the Articles of Association to the sole shareholder or the general meeting of shareholders are in the competence of the Board of Directors.

Article 15.- Delegation of Powers

According to article 441-10 of the Law, the daily management of the Company as well as the representation of the Company in relation with this management may be delegated to one or more Directors (the "**Managing Director(s)**"), officers, managers or other agents, associate or not, acting alone or jointly. Their nomination, revocation and powers shall be settled by a resolution of the Board of Directors. The delegation to a member of the Board of Directors shall entail the obligation for the Board of Directors to report each year to the ordinary general meeting on the salary, fees and any advantages granted to the delegate. The Company may also grant special powers by authentic proxy or power of attorney by private instrument.

Article 16.- Conflict of Interests

16.1. Save as otherwise provided by the Law, any member of the Board of Directors who has, directly or indirectly, a financial interest conflicting with the interest of the Company in connection with a transaction falling within the competence of the Board of Directors, must inform the Board of Directors of such conflict of interest and must have his declaration recorded in the minutes of the meeting of the Board of Directors. The relevant member of the Board of Directors may not take part in the discussions relating to such transaction nor vote on such transaction. Any such conflict of interest must be reported to the next general meeting of shareholders of the Company prior to such meeting taking any resolution on any other item.

16.2. Where, by reason of conflicting interests, the number of members of the Board of Directors required in order to validly deliberate is not met, the Board of Directors may decide to submit the decision on this specific item to the general meeting of shareholders.

16.3. The conflict of interest rules shall not apply where the decision of the Board of Directors relates to day-to-day transactions entered into under normal conditions.

16.4. The daily manager(s) of the Company, if any, are subject to articles 16.1 to 16.3 of these Articles of Association provided that if only one daily manager has been appointed and is in a situation of conflicting interests, the relevant decision shall be adopted by the Board of Directors.

Article 17.- Committees of the board of directors

The Board of Directors may establish one or more committees, including without limitation, an audit committee and a remuneration committee, and for which it shall, if one or more of such committees are set up, appoint the members who may be but do not need to be members of the Board of Directors (subject always, if the ordinary shares of the Company are listed on a foreign stock exchange, to the requirements of such foreign stock exchange applicable to the Company and/or of such regulatory authority competent in relation to such listing), determine the purpose, powers and authorities as well as the procedures and such other rules as may be applicable thereto.

Article 18.- Indemnification

18.1. The members of the Board of Directors are not held personally liable for the indebtedness or other obligations of the Company. As agents of

the Company, they are responsible for the performance of their duties. Subject to the exceptions and limitations listed in Article 18.2 and mandatory provisions of law, every person who is, or has been, a member of the Board of Directors or officer of the Company shall be indemnified by the Company to the fullest extent permitted by law against liability and against all expenses reasonably incurred or paid by him in connection with any claim, action, suit or proceeding which he becomes involved as a party or otherwise by virtue of his or her being or having been a director or officer and against amounts paid or incurred by him or her in the settlement thereof. The words "claim", "action", "suit" or "proceeding" shall apply to all claims, actions, suits or proceedings (civil, criminal or otherwise including appeals) actual or threatened and the words "liability" and "expenses" shall include without limitation attorneys' fees, costs, judgments, amounts paid in settlement and other liabilities.

18.2. No indemnification shall be provided to any director, officer or shareholder (i) against any liability by reason of willful misfeasance, bad faith, gross negligence or reckless disregard of the duties involved in the conduct of his or her office (ii) with respect to any matter as to which he or she shall have been finally adjudicated to have acted in bad faith and not in the interest of the Company or (iii) in the event of a settlement, unless the settlement has been approved by a court of competent jurisdiction or by the Board of Directors.

18.3. The right of indemnification herein provided shall be severable, shall not affect any other rights to which any director or officer may now or hereafter be entitled, shall continue as to a person who has ceased to be such director or officer and shall inure to the benefit of the heirs, executors and administrators of such a person. Nothing contained herein shall affect or limit any rights to indemnification to which corporate personnel, including directors and officers, may be entitled by contract or otherwise under law. The Company shall specifically be entitled to provide contractual indemnification to and may purchase and maintain insurance for any corporate personnel, including directors and officers of the Company, as the Company may decide upon from time to time.

Article 19.- Representation of the Company

The Company will be bound towards third parties by the joint signature of any A Director and any B Director or by the sole signature of the person to whom the daily management of the Company has been delegated, within such daily management or by the joint signatures or sole signature of any persons to whom such signatory power has been delegated by the Board of Directors, but only within the limits of such power.

Article 20.- Statutory Auditors

20.1. The transactions of the Company shall be supervised by one or several statutory auditors (commissaires). The general meeting of shareholders shall appoint the statutory auditor(s) and shall determine their term of office, which may not exceed six (6) years.

20.2. A statutory auditor may be removed at any time, without notice and with or without cause by the general meeting of shareholders.

20.3. The statutory auditor(s) have an unlimited right of permanent supervision and control of all transactions of the Company.

20.4. If the general meeting of shareholders of the Company appoints one or more independent auditors (réviseurs d'entreprises agréés) in accordance with Article 69 of the law of 19 December 2002 regarding the trade and companies register and the accounting and annual accounts of undertakings, as amended, the institution of statutory auditors is no longer required.

20.5. An independent auditor may only be removed by the general meeting of shareholders for cause or with his approval.

CHAPTER IV. MEETING OF SHAREHOLDERS

Article 21.- Powers of the Meeting of Shareholders

The general meeting of shareholders and holders of Beneficiary Certificates shall represent all the shareholders and all the holders of Beneficiary Certificates of the Company (the "**General Meeting**"). It has the powers conferred upon it by law.

Article 22.- Annual General Meeting

The annual General Meeting shall be held within six (6) months of the end of each financial year in the Grand Duchy of Luxembourg at the registered office of the Company or at such other place in the Grand Duchy of Luxembourg as may be specified in the convening notice of such meeting. Other General Meetings may be held at such place and time as may be specified in the respective convening notices. Holders of bonds are not entitled to attend General Meetings.

Article 23.- Other General Meetings

23.1. The Board of Directors may convene other General Meetings. Such meetings must be convened if shareholders representing at least ten percent (10%) of the Company's capital so require.

23.2. General Meetings, including the annual General Meeting, may be held abroad if, in judgment of the Board of Directors, which is final, circumstances of force majeure so require.

23.3. General Meetings shall be convened in accordance with the provisions of the law and if the ordinary shares of the Company are listed on a foreign stock exchange, in accordance with the requirements of such foreign stock exchange applicable to the Company.

23.4. If the ordinary shares of the Company are listed on a foreign stock exchange, all shareholders recorded in any register of shareholders of the Company, the Holder or the Depositary as case may be, and the holders of Beneficiary Certificates, are entitled to be admitted to the General Meeting; provided, however, that the Board of Directors may determine a date and time preceding the General Meeting as the record date for admission to the general meeting of shareholders (the "**Record Date**"), which may not be less than five (5) days before the date of such meeting.

23.5. Any shareholder of the Company, Holder or Depositary, as the case may be, and any holder of Beneficiary Certificates may attend the General Meeting by appointing another person as his or her proxy, the appointment of which shall be in writing, in a manner to be determined by the Board of Directors in the convening notice. In case of ordinary shares held through the operator of a securities settlement system or with a Depositary designated by such Depositary, a holder of ordinary shares wishing to attend a General Meeting should receive from such operator or Depositary a certificate certifying the number of ordinary shares recorded in the relevant account on the Record Date and that such ordinary shares are blocked until the closing of the General Meeting to which it relates. The certificate should be submitted to the Company no later than three (3) business days prior to the date of such general meeting. If the shareholder or holder of Beneficiary Certificates votes by means of a proxy, the proxy shall be deposited at the registered office of the Company or with any agent of the Company, duly authorized to receive such proxies, at the same time. The Board of Directors may set a shorter period for the submission of the certificate or the proxy.

Article 24.- Procedure, Vote

1. Shareholders and holders of Beneficiary Certificates will meet upon call by the Board of Directors or the auditor(s) made in compliance with Luxembourg law. The notice sent to the shareholders and to the holders of Beneficiary Certificates in accordance with the law will specify the time and place of the meeting as well as the agenda and the nature of the business to be transacted.

2. If all the shareholders and holders of Beneficiary Certificates are present or represented at a General Meeting and if they state that they have been informed of the agenda of the meeting, the General Meeting may be held without prior notice.

3. Shareholders and holders of Beneficiary Certificates may act at any General Meeting by appointing in writing, by fax, mail, email or by any other mean of written communication, as his proxy another person who need not be a shareholder nor a holder of Beneficiary Certificates.

4. Each shareholder and each holder of Beneficiary Certificates may vote at a General Meeting through a signed voting form sent by mail or facsimile or by any other means of communication authorized by the Board of Directors and delivered to the Company's registered office or to the address specified in the convening notice. The shareholders and holders of Beneficiary Certificates may only use voting forms provided by the Company which contain at least the place, date and time of the meeting, the agenda of the meeting, the proposals submitted to the resolution of the General Meeting, as well as for each proposal three boxes allowing the shareholder and holder of Beneficiary Certificates to vote in favor of or against the proposed resolution or to abstain from voting thereon by ticking the appropriate boxes. The Company will only take into account voting forms received no later than three (3) business days prior to the date of the General Meeting to which they relate. The Board of Directors may set a shorter period for the submission of the voting forms.

5. The Board of Directors may determine all other conditions that must be fulfilled in order to take part in General Meeting.

6. Except as otherwise required by law or by the present Articles of Association, resolutions will be taken by a simple majority of votes irrespective of the number of shareholders and holders of Beneficiary Certificates present or represented at the General Meeting.

7. One vote is attached to each outstanding ordinary share. Each Beneficiary Certificate entitles its holder to one vote.

8. Copies of extracts of the minutes of the meeting to be produced in judicial proceedings or otherwise will be signed by any two members of the Board of Directors or by the Chairman of the Board of Directors.

CHAPTER V. FINANCIAL YEAR, DISTRIBUTION OF PROFITS

Article 25.- Financial Year

The Company's financial year begins on the first day of January and ends on the last day of December in every year. The Board of Directors shall prepare annual accounts in accordance with the requirements of Luxembourg law and accounting practice.

Article 26.- Appropriation of Profits

i. From the annual net profits of the Company, five per cent (5%) shall be allocated to the reserve required by law. That allocation will cease to be required as soon and as long as such reserve amounts to ten per cent (10%) of the subscribed capital of the Company.

ii. The General Meeting shall determine how the remainder of the annual net profits will be disposed of. It may decide to allocate the whole or part of the

remainder to a reserve or to a provision reserve, to carry it forward to the next following financial year or to distribute it to the shareholders as dividend.

iii. Subject to the conditions fixed by law, the Board of Directors may pay out an advance payment on dividends. The Board of Directors fixes the amount and the date of payment of any such advance payment.

CHAPTER VI. DISSOLUTION, LIQUIDATION

Article 27.- Dissolution, Liquidation

27.1. The Company may be dissolved by a decision of the General Meeting voting with the same quorum and majority as for the amendment of these Articles of Association, unless otherwise provided by law.

27.2. Should the Company be dissolved, the liquidation will be carried out by one or more liquidators appointed by the General Meeting, which will determine their powers and their compensation.

27.3. After payment of all the debts of and charges against the Company and of the expenses of liquidation, the net assets shall be distributed equally to the holders of the ordinary shares pro rata to the number of the ordinary shares held by them.

CHAPTER VII. AMENDMENT OF THE ARTICLES OF ASSOCIATION

Article 28.- Amendments of the Articles of Association

These Articles of Association may be amended by a resolution of the General Meeting adopted under a quorum of fifty per cent (50%) of the share capital of the Company and a majority of two thirds of the votes of the shareholders and holders of Beneficiary Certificates of the Company, provided that the agenda of the General Meeting indicates the proposed amendments and that a copy of the coordinated articles of association is made available at the registered office of the Company at least eight (8) days prior to the general meeting of shareholders and holders of Beneficiary Certificates.

Article 29.- Change of nationality

The shareholders may change the nationality of the Company by a resolution of the General Meeting adopted in the manner required for an amendment of these Articles of Association.

CHAPTER VIII. APPLICABLE LAW

Article 30.- Applicable Law

All matters not governed by these Articles of Association shall be determined in accordance with the Law. Where any matter contained in these Articles of Association conflicts with the provisions of a shareholders' agreement as may be concluded from time to time by the shareholders of the Company, the terms of such shareholders' agreement shall prevail inter partes and to the extent permitted by Luxembourg law."

Suit la traduction en français du texte qui précède :

CHAPITRE Ier. FORME, DÉNOMINATION, SIÈGE, OBJET, DURÉE

Article 1er. Forme, Dénomination

La société est constituée sous la forme d'une société anonyme, régie par les lois du GrandDuché de Luxembourg et notamment la loi du 10 aout 1915 sur les sociétés commerciales (la « **Loi** »), telle que modifiée, ainsi que par les présents statuts (les « **Statuts** ») (la « **Société** »).

La Société adopte la dénomination « **SPOTIFY TECHNOLOGY S.A.** ».

Article 2. Siège Social

2.1 Le siège social de la Société est établi à Luxembourg-Ville.

2.2 Le siège social peut être transféré à tout autre endroit de la Ville de Luxembourg ou dans toute autre commune du Grand-Duché de Luxembourg par décision du Conseil d'Administration. Des succursales ou autres bureaux peuvent être établis soit au Grand-Duché de Luxembourg, soit à l'étranger par une décision du Conseil d'Administration. Par la suite, le Conseil d'Administration est autorisé à modifier les Statuts afin de refléter le changement de commune du siège social de la Société et d'acter cette modification devant un notaire.

2.3 Dans l'hypothèse où le Conseil de d'Administration estimerait que des événements exceptionnels d'ordre politique, économique ou social ou des catastrophes naturelles se sont produits ou seraient imminents, de nature à interférer avec l'activité normale de la Société à son siège social, il pourra transférer provisoirement le siège social à l'étranger jusqu'à la cessation complète de ces circonstances exceptionnelles. Ces mesures provisoires n'auront toutefois aucun effet sur la nationalité de la Société, laquelle, nonobstant ce transfert provisoire du siège social, restera une société régie par les lois du GrandDuché de Luxembourg.

Article 3. Objet

3.1 La Société a pour objet la prise de participations et la détention de participations directes ou indirectes dans des entreprises luxembourgeoises et/ou étrangères ainsi que l'administration, la gestion et la mise en valeur de ces participations.

3.2 La Société peut accorder toute assistance financière à des filiales, des sociétés affiliées ou à d'autres sociétés appartenant au même groupe de sociétés que la Société, notamment des prêts, garanties ou sûretés sous quelque forme que ce soit.

3.3 La Société peut employer ses fonds en investissant dans l'immobilier ou les droits de propriété intellectuelle ou tout autre actif mobilier ou immobilier sous quelque forme que ce soit.

3.4 La Société peut emprunter sous toutes formes et procéder à l'émission d'obligations.

3.5 D'une manière générale, la Société peut effectuer toute opération commerciale, industrielle ou financière qu'elle jugera utile à l'accomplissement et au développement de son objet social.

Article 4. Durée

La Société est établie pour une durée illimitée. Elle peut être dissoute par décision de l'associé unique ou par une assemblée générale des actionnaires votant avec le quorum et la majorité prévus par la loi et les présents Statuts.

CHAPITRE II. CAPITAL, ACTIONS

Article 5. Capital Social

5.1 Le capital social souscrit émis est fixé à cent vingt et un mille neuf virgule trois un huit sept cinq euros (EUR 121.009,31875) divisé en cent quatre-vingt-treize millions six cent quatorze mille neuf cent dix (193.614.910) actions d'une valeur nominale de zéro virgule zéro zéro six cent vingt-cinq euros (0,00625 EUR) chacune.

5.2 Le capital autorisé de la Société est fixé à cent trente mille huit cent quatre-vingt-six virgule zéro zéro six deux cinq euros (EUR 130.886,00625) divisé en deux cent neuf millions quatre cent dix-sept mille six cent dix (209.417.610) actions d'une valeur nominale de zéro virgule zéro zéro zéro six cent vingt-cinq euros (0,000625 EUR) chacune.

5.3 Le Conseil d'Administration est autorisé à sous-déléguer à un des Administrateurs de la Société, fondé de pouvoir de la Société, ou toute

autre personne dûment autorisée, pendant une période se terminant cinq (5) ans après la date de publication du procès-verbal de l'assemblée générale extraordinaire des actionnaires tenue le 14 mars 2018, au RESA, Recueil Electronique des Sociétés et Association, de (i) réaliser toute augmentation du capital social dans les limites du capital autorisé en une ou plusieurs tranches successives par l'émission de nouvelles actions ordinaires avec ou sans prime d'émission, en contrepartie d'un paiement en espèces ou en nature, (a) suivant l'exercice des droits de souscription et/ou (b) suivant l'exercice des droits de conversion accordés par le Conseil d'Administration sous les conditions de bons de souscription (pouvant être attachés ou séparés d'actions ordinaires, d'obligations ou autres instruments similaires), d'obligations convertibles ou d'autres instruments similaires émis de temps en temps par la Société, (c) par la conversion de créances ou (d) de toute autre manière, (ii) déterminer le lieu et la date d'émission, le prix d'émission, les conditions générales de souscription et de libération des nouvelles actions ordinaires et (iii) supprimer ou limiter le droit préférentiel de souscription des actionnaires.

5.4 Les actions ordinaires peuvent être émises à une valeur supérieure, égale ou inférieure à leur valeur de marché, mais en aucun cas à une valeur inférieure à leur valeur nominale ou à la valeur nette comptable d'une action ordinaire.

Article 6. Actions

6.1 Les actions ordinaires sont et devront être uniquement sous forme nominative.

6.2 Aucune fraction d'action ordinaire ne peut exister ou être émise. Le Conseil d'Administration est cependant autorisé à organiser de façon discrétionnaire le paiement en espèces au lieu de toute fraction d'action ordinaire de la Société.

6.3 Les actions ordinaires peuvent être détenues en fiducie par un ou plusieurs actionnaires.

6.4 Un registre des actionnaires sera tenu par la Société à son siège social où il sera mis à disposition aux fins de vérifications par tout actionnaire. Ce registre contiendra la désignation précise de chaque actionnaire et l'indication du nombre de ses actions ordinaires, l'indication des paiements effectués sur ses actions ordinaires ainsi que les transferts des actions ordinaires avec leur date. La propriété des actions ordinaires sera établie par l'inscription sur ledit registre ou dans le cas ou des teneurs de registres séparés ont été nommés conformément à l'Article 6.5 des Statuts, dans ce(s) registre(s) séparé(s). Sans préjudice des conditions de transfert par inscriptions prévues à l'Article 6.7 des Statuts, un transfert d'actions ordinaires devra être effectué au moyen d'une déclaration de transfert inscrite dans le registre concerné, datée et signée par le cédant et le cessionnaire ou par leurs représentants dûment autorisés ou par la Société suite à la notification de la cession ou de l'acceptation de la cession par la Société. La Société peut accepter et inscrire un transfert dans le registre approprié sur la base d'une correspondance ou de tout autre document actant un accord entre le cédant et le cessionnaire.

6.5 La Société peut nommer des teneurs de registre dans différentes juridictions qui pourront tenir chacun un registre séparé pour les actions ordinaires qui y seront inscrites. Les actionnaires pourront choisir d'être inscrits dans l'un des registres et de transférer leurs actions ordinaires dans un autre registre tenu de cette façon. Le Conseil d'Administration peut toutefois imposer des restrictions au transfert pour les actions ordinaires

inscrites, cotées, traitées ou placées dans certaines juridictions conformément aux exigences applicables dans ces juridictions. Un transfert dans le registre tenu au siège social de la Société peut toujours être demandé.

6.6 Sous réserve des dispositions de l'Article 6.7 et l'Article 6.9, la Société peut considérer la personne au nom de laquelle les actions ordinaires sont inscrites dans le registre des actionnaires comme étant le propriétaire unique desdites actions ordinaires. Dans le cas où un détenteur d'actions ordinaires n'ai pas fourni par voie écrite d'adresse à laquelle toutes les notifications et communications de la Société pourront être envoyées, la Société pourra permettre l'inscription de cette information dans le registre des actionnaires et l'adresse de ce détenteur sera considérée comme étant au siège social de la Société ou à tout autre adresse que la Société pourra inscrire au fil du temps jusqu'à ce que ce détenteur ait fourni par écrit une adresse différente à la Société. Le détenteur peut modifier à tout moment son adresse figurant au registre des actionnaires au moyen d'une notification écrite faite à la Société.

6.7 Les actions ordinaires peuvent être tenues par un porteur (le «**Porteur**») au travers d'un système de compensation ou d'un Dépositaire (tel que ce terme est défini ci-dessous). Le Porteur d'actions ordinaires détenues dans ces comptes de titres fongibles a les mêmes droits et obligations que si ce Porteur détenait directement les actions ordinaires. Les actions ordinaires détenues au travers d'un système de compensation ou d'un Dépositaire doivent être consignées dans un compte ouvert au nom du Porteur et peuvent être transférées d'un compte à un autre, conformément aux procédures habituelles pour le transfert de titres sous forme d'inscription en compte. Toutefois, la Société versera les dividendes, s'il y en a, ainsi que tout autre paiement en espèces, actions ordinaires ou autres titres, s'il y en a, uniquement au profit du système de compensation ou du Dépositaire inscrits dans le registre des actionnaires ou conformément aux instructions de ce système de compensation ou du Dépositaire. Ce paiement déchargera complètement la Société de ses obligations à cet égard.

6.8 Dans le cadre d'une assemblée générale des actionnaires, le Conseil d'Administration peut décider qu'aucune inscription ne soit faite dans le registre des actionnaires et qu'aucun avis de transfert ne soit reconnu par la Société et le(s) teneur(s) de registre durant la période commençant à la Date d'Inscription (telle que définie ci-après) et se terminant à la clôture de cette assemblée générale.

6.9 Toutes les communications et avis à donner à un actionnaire inscrit sont réputés valablement faits s'ils sont faits à la dernière adresse communiquée par l'actionnaire à la Société conformément à l'Article 6.5 ou, si aucune adresse n'a été communiquée par l'actionnaire, au siège social de la Société ou à toute autre adresse que la Société pourra inscrire dans le registre au fil du temps conformément à l'Article 6.7.

6.10 Lorsque les actions ordinaires sont enregistrées dans le registre des actionnaires au nom ou pour le compte d'un système de compensation ou de l'opérateur d'un tel système et enregistrées comme des entrées dans les comptes d'un dépositaire professionnel ou de tout sous-dépositaire (tout dépositaire et tout sous-dépositaire sera désigné ci-après comme un «**Dépositaire**»), la Société – sous réserve d'avoir reçu du Dépositaire un certificat en bonne et due forme – permettra au Dépositaire de telles entrées en compte d'exercer les droits attachés aux actions ordinaires correspondant aux entrées en compte du Porteur concerné, y compris de recevoir les convocations aux assemblées générales, l'admission et le vote

aux assemblées générales et devra considérer le Dépositaire comme étant le porteur des actions ordinaires correspondant aux entrées en compte aux fins du présent Article 6 des présents Statuts. Le Conseil d'Administration peut déterminer les conditions de forme auxquelles devront répondre ces certificats.

Article 7. Augmentation et Réduction du Capital Social

7.1 Le capital autorisé et le capital émis de la Société peut être augmenté ou réduit, en une ou en plusieurs fois, par une résolution de l'assemblée générale des actionnaires, selon le cas, adoptée aux conditions de quorum et de majorité exigées par les présents Statuts ou, le cas échéant, par la loi pour toute modification des Statuts.

7.2 Le capital souscrit de la Société peut également être augmenté à une ou plusieurs reprises par une résolution du Conseil d'Administration, dans les limites du capital autorisé.

7.3 Les nouvelles actions ordinaires à souscrire par apport en numéraire seront offertes par préférence aux actionnaires existants proportionnellement à la part du capital qu'ils détiennent. Le Conseil d'Administration fixera le délai pendant lequel le droit préférentiel de souscription devra être exercé. Ce délai ne pourra pas être inférieur à quatorze jours à compter de la date d'envoi d'une lettre recommandée ou de tout autre moyen de communication accepté individuellement par les destinataires et garantissant l'accès aux informations transmises aux actionnaires annonçant l'ouverture de la période de souscription.

7.4 Par dérogation à ce que est dit ci-dessus, l'assemblée générale, délibérant aux mêmes conditions de quorum et de majorité que celles exigées pour toute modification des Statuts, peut supprimer, renoncer ou limiter le droit préférentiel de souscription ou autoriser le Conseil d'Administration à le faire, dans la mesure où le Conseil d'Administration jugera cette suppression, renonciation ou limitation opportune pour toute émission ou émissions d'actions dans la cadre du capital autorisé.

7.5 Si après la fin de la période de souscription, tous les droits préférentiels de souscription offerts aux actionnaires existants n'ont pas été exercés par ces derniers, des tiers peuvent être autorisés à participer à l'augmentation du capital social, sauf si le Conseil d'Administration décide que les droits préférentiels de souscription seront offerts aux actionnaires existants qui ont déjà exercé leurs droits pendant la période de souscription, proportionnellement à la part de leurs actions ordinaires dans le capital social; les modalités de souscription sont déterminées par le Conseil d'Administration. Le Conseil d'Administration peut également décider dans ce cas que le capital social ne sera augmenté qu'à concurrence du montant des souscriptions reçues par le(s) actionnaire(s) de la Société

Article 8. Rachat d'actions

La Société peut acquérir ou racheter ses propres actions ordinaires.

L'acquisition et la détention de ses propres actions ordinaires se fera conformément aux conditions et dans les limites fixées par la loi.

Article 9. Parts Bénéficiaires

9.1 La Société peut émettre à tout moment des parts bénéficiaires disposant de droits fixés par les Statuts (les "**Parts Bénéficiaires**"). Le Conseil d'Administration est autorisé à émettre jusqu'à un milliard quatre cent millions (1.400.000.000) de Parts Bénéficiaires sans qu'un droit préférentiel de souscription soit réservé aux actionnaires existants pour les Parts Bénéficiaires émises. Les Parts Bénéficiaires ne pourront être émises qu'aux actionnaires de la Société. La décision d'émettre des Parts Bénéficiaires à un

actionnaire relève de l'entière discrétion du Conseil d'Administration. Au moment de leur émission, le Conseil d'Administration devra lier les Parts Bénéficiaires à une ou plusieurs actions ordinaires de la Société détenues par l' (les) actionnaire(s) en faveur duquel (desquels) elles ont été émises, sur base d'un ratio applicable à cet actionnaire tel que fixé par le Conseil d'Administration au moment de l'émission, ce ratio devant se situer entre 1:1 et 20:1 des Parts Bénéficiaires aux actions ordinaires.

9.2 Il y a actuellement trois cent soixante-cinq millions quatorze mille huit cent quarante (365.014.840) Parts Bénéficiaires en circulation sur les quatre cent huit millions neuf cent cinquante-sept mille quatre cent soixante-dix (408.957.470) Parts Bénéficiaires émises.

9.3 Dans l'hypothèse où le Conseil d'Administration procède à une émission des Parts Bénéficiaires conformément aux dispositions du présent Article 9, il prend, ou fait prendre, tous les étapes nécessaires à la modification des Statuts afin qu'ils reflètent cette émission.

9.4 Les Parts Bénéficiaires seront émises uniquement sous forme nominative et la propriété de chaque Part Bénéficiaire s'établit par inscription au registre des Parts Bénéficiaires (le "**Registre PB**"). Le Registre PB constitue la preuve de la propriété des Parts Bénéficiaires et toute personne dont le nom figure au Registre PB comme titulaire est considérée propriétaire des Parts Bénéficiaires enregistrées à son nom.

9.5 Le Registre PB pourra être tenu par la Société à son siège social ou pourra être confié par la Société à un agent de transfert. Le Registre PB doit contenir l'identité des détenteurs de Parts Bénéficiaires, le nombre des Parts Bénéficiaires détenues par chacun d'eux ainsi que leur adresse et date d'entrée. En cas de transfert, rachat ou annulation effectués conformément aux dispositions des Statuts, les écritures correspondantes devront être inscrites au registre.

La Société ne reconnaît qu'un seul propriétaire par Part Bénéficiaire. Si la propriété de la Part Bénéficiaire est indivise, ou si des fractions d'une Part Bénéficiaire sont détenues par plusieurs détenteurs de Parts Bénéficiaires ou si la propriété de ces Parts Bénéficiaires est contestée, l'ensemble des personnes invoquant un droit sur cette (ces) Part(s) Bénéficiaire(s), ou disposant d'une fraction d'une Part Bénéficiaire respectivement, doivent nommer un mandataire spécial pour représenter cette (ces) Part(s) Bénéficiaire(s) envers la Société. Le manquement à cette obligation de nomination pourra entraîner la suspension du (des) droit(s) de vote rattaché(s) à de telle(s) Part(s) Bénéficiaire(s).

9.6 Les Parts Bénéficiaires ne donnent pas le droit aux dividendes, remboursement de primes d'émission ou à des distributions de quelque type que ce soit, y compris la distribution du boni de liquidation réalisée par la Société.

9.7 Chaque Part Bénéficiaire donne droit à une (1) voix à toute assemblée générale des actionnaires de la Société et chaque Part Bénéficiaire sera prise en considération dans le calcul du quorum et de la majorité requis pour les assemblées générales de la Société.

9.8 Les Parts Bénéficiaires ne peuvent pas être transférées et devront être automatiquement annulées en cas de cession ou de transfert de(s) l'action(s) à laquelle (auxquelles) elles sont liées, étant donné que les exceptions aux transferts des Parts Bénéficiaires ou à leur annulation lors de la cession ou du transfert des actions ordinaires sous-jacentes auxquelles elles sont liées seront décidées par le Conseil d'Administration au cas par cas et relèveront de son entière discrétion, à cette occasion, le Conseil

d'Administration pourra aussi recalculer le ratio et, le cas échéant, répartir les Parts Bénéficiaires non annulées aux actions ordinaires éligibles restantes (déjà liées à d'autres Parts Bénéficiaires) au prorata. En cas d'un calcul autorisé d'actions ordinaires résultant d'un fractionnement d'actions, d'attribution d'actions ordinaires gratuites, d'une subdivision ou division des actions ou combinaison d'actions à travers une consolidation ou action similaire, les Parts Bénéficiaires sont traitées de la même manière que les actions ordinaires auxquelles elles sont liées.

9.9 De la même façon, toutes les Parts Bénéficiaires seront automatiquement annulées dans l'hypothèse où le nombre d'actions ordinaires total détenu par Rosello Company Limited et D.G.E Investments Ltd, et leurs successeurs, descendrait en dessous de sept millions cinq cent soixante-quatre mille six cents (7.564.600) actions ordinaires.

9.10 Toute modification affectant les droits des détenteurs de Parts Bénéficiaires fixés dans les Statuts requiert une décision de l'assemblée générale des actionnaires prise aux conditions de quorum et de majorité requises pour une modification des Statuts. En outre, les mêmes quorum et majorité devront également être atteints à une assemblée des titulaires des Parts Bénéficiaires comme s'ils votaient en tant que catégorie distincte.

CHAPITRE III. ADMINISTRATEURS, COMMISSAIRE AUX COMPTES

Article 10. Conseil d'Administration

10.1 La Société est gérée et administrée par un conseil d'administration (le "**Conseil d'Administration**") composé de membres de catégorie A (les "**Administrateurs A**") et de membres de catégorie B (les "**Administrateurs B**"), associés ou non (les "**Administrateurs**"). Le Conseil d'Administration doit toujours être composé au minimum de trois (3) Administrateurs.

10.2 Les Administrateurs seront nommés par l'assemblée générale qui détermine la durée de leur mandat, et ils resteront en fonction jusqu'à ce que leurs successeurs soient élus. Ils peuvent être réélus pour des mandats successifs et ils peuvent être révoqués à tout moment, avec ou sans motif par décision de l'assemblée générale.

Article 11. Vacance d'un poste de membre du Conseil d'Administration

En cas de vacance d'un membre du Conseil d'administration en raison d'un décès, d'une incapacité légale, d'une faillite, d'une démission ou autre, ce poste peut être pourvu de manière temporaire et pour une durée n'excédant pas le mandat initial du membre remplacé du Conseil d'Administration, par les autres membres du Conseil d'Administration jusqu'à la prochaine assemblée générale des actionnaires de la Société qui se prononcera sur la nomination permanente dans le respect des dispositions légales applicables et des présents Statuts.

Article 12. Réunions du Conseil d'Administration

12.1 Le Conseil d'Administration peut choisir parmi ses membres un président (le « **Président** »). Il pourra également nommer un secrétaire qui n'a pas besoin d'être membre du Conseil d'Administration et qui sera responsable de la tenue des procès-verbaux des réunions du Conseil d'Administration et des actionnaires.

12.2 Le Conseil d'Administration se réunira sur convocation du Président. Une réunion du Conseil d'Administration doit être convoquée si deux Administrateurs le demandent.

12.3 Le Président présidera toutes les réunions du Conseil d'Administration et les assemblées générales des actionnaires (si nécessaires), mais en son absence le Conseil d'Administration pourra désigner un autre membre du Conseil d'Administration et l'assemblée générale des actionnaires pourra désigner toute autre personne comme président pro tempore à la majorité des membres présents ou représentés.

12.4 Sauf en cas d'urgence ou avec l'accord écrit préalable de tous ceux qui ont le droit d'y assister, une convocation écrite de toute réunion du Conseil d'Administration devra être transmise, vingt-quatre heures au moins avant la date prévue pour la réunion, par télécopie, par courrier, par courriel ou tout autre moyen de communication. La convocation indiquera la date, l'heure et le lieu de la réunion ainsi que l'ordre du jour et la nature des affaires à traiter. Il pourra être passé outre cette convocation avec l'accord écrit transmis par télécopie, par courrier ou par courriel de chaque membre du conseil d'Administration. Une convocation spéciale ne sera pas requise pour les réunions se tenant à une date et à un endroit déterminés dans une résolution préalablement adoptée par le Conseil d'Administration.

12.5 Toute réunion du Conseil d' Administration se tiendra à Luxembourg ou tout autre endroit que le Conseil d'Administration pourra déterminer d'un temps à l'autre.

12.6 Tout membre du Conseil d'Administration pourra se faire représenter aux réunions du Conseil d' Administration en désignant par écrit, par télécopie, par couriel ou par courrier un autre membre du Conseil d' Administration comme son mandataire.

12.7 Le quorum du Conseil d'Administration est d'un (1) Administrateur A et d'un (1) Administrateur B présent à la réunion ou, dans l'hypothèse où aucun administrateur de catégorie A ou de catégorie B n'ait été nommé, trois (3) Administrateurs en fonction. Dans le cas où, la Section 303A.03 du manuel des sociétés cotées de la bourse de New-York (New-York Stock Exchange Listed Company Manual), exige qu'une réunion des administrateurs indépendants prenne place au moins une fois par an, le quorum requis pour une réunion du Conseil d'Administration pourra être ignoré et tous les administrateurs indépendants devront alors être présents ou représentés à cette réunion.

12.8 Toutes les affaires à l'ordre du jour de toute réunion du Conseil d'Administration seront déterminées par une résolution passée à la majorité des voix en faveur de la résolution. Dans le cas d'une égalité de voix, le Président aura une voix prépondérante (la « **Voix Prépondérante**»). La Voix Prépondérante sera personnelle au Président et ne pourra être transférée à un Administrateur agissant comme président de la réunion du Conseil d'Administration, en l'absence du Président.

12.9 Un ou plusieurs Administrateurs peuvent participer à une réunion par conférence téléphonique, visioconférence ou par tout autre moyen de communication similaire permettant ainsi à plusieurs personnes y participant de communiquer simultanément l'une avec l'autre. Une telle participation sera considérée équivalente à une présence physique à la réunion.

12.10 Une décision écrite signée par tous les Administrateurs est régulière et valable comme si elle avait été adoptée à une réunion du Conseil d'Administration, dûment convoquée et tenue. Une telle décision pourra être consignée dans un seul ou plusieurs écrits séparés ayant le même contenu et signé par un ou plusieurs Administrateurs.

Article 13. Procès-verbaux des Réunions du Conseil d'Administration

13.1 Les procès-verbaux de toute réunion du Conseil d'Administration seront signés par le Président de la réunion et par le secrétaire (s'il y a un). Les procurations resteront annexées aux procès-verbaux.

13.2 Les copies ou extraits de ces procès-verbaux, destinés à servir en justice ou ailleurs, seront signés par le Président et le secrétaire (s'il y en a) ou par deux membres du Conseil d'Administration.

Article 14. Pouvoirs du Conseil d'Administration

Le Conseil d'Administration est investi de tous les pouvoirs (à l'exception de ceux qui sont expressément réservés par la loi à l'associé unique ou à l'assemblée générale des actionnaires) pour accomplir tout acte nécessaire pour accomplir l'objet social de la Société. Tous pouvoirs qui ne sont pas expressément réservés par la loi ou par les Statuts à l'associé unique ou à l'assemblée générale des actionnaires sont dans la compétence du Conseil d'Administration.

Article 15. Délégation de Pouvoirs

La gestion journalière de la Société ainsi que la représentation de la Société en ce qui concerne cette gestion pourront, conformément à l'article 441-10 de la Loi, être déléguées à un ou plusieurs Administrateurs (le(s) « **Administrateur(s) Délégué(s)** », directeurs, gérants et autres agents, associés ou non, agissant seuls ou conjointement. Leur nomination, leur révocation et leurs attributions seront réglées par une décision du Conseil d'Administration. La délégation à un membre du Conseil d'Administration impose au conseil d'Administration l'obligation de rendre annuellement compte à l'assemblée générale ordinaire, des traitements, émoluments et avantages quelconques alloués au délégué. La Société peut également conférer tous mandats spéciaux par procuration authentique ou sous seing privé.

Article 16. Conflit d'Intérêts

16.1 Sauf dispositions contraires de la Loi, tout membre du Conseil d'Administration qui a, directement ou indirectement, un intérêt de nature patrimoniale opposé à celui de la Société à l'occasion d'une opération relevant du Conseil d'Administration est tenu d'en prévenir le Conseil d'Administration et de faire mentionner cette déclaration dans le procès-verbal de la séance. L'administrateur concerné ne peut prendre part ni aux discussions relatives à cette opération, ni au vote y afférent. Ce conflit d'intérêts doit également faire l'objet d'un rapport aux actionnaires, lors de la prochaine assemblée générale des actionnaires, et avant toute prise de décision de l'assemblée générale des actionnaires sur tout autre point à l'ordre du jour.

16.2 Lorsque, en raison d'un conflit d'intérêts, le nombre d'administrateurs requis afin de délibérer valablement n'est pas atteint, le Conseil d'Administration peut décider de déférer la décision sur ce point spécifique à l'assemblée générale des actionnaires.

16.3 Les règles relatives aux conflits d'intérêts ne s'appliquent pas lorsque la décision du Conseil d'Administration se rapporte à des opérations courantes conclues dans des conditions normales.

16.4 Le(s) délégués à la gestion journalière de la Société le cas échéant, sont soumis aux articles 16.1 à 16.3 des présents Statuts à condition qu'un seul délégué à la gestion journalière de la Société ait été désigné et se trouve en situation conflit d'intérêts, la décision visée devant être adoptée par le Conseil d'Administration.

Article 17. Comité du Conseil d'Administration

Le Conseil d'Administration peut créer un ou plusieurs comités, incluant sans limitation, un comité d'audit et un comité de rémunération, et pour lesquels il doit, si un ou plusieurs de ces comités sont mis en place, nommer les membres qui peuvent, mais ne doivent pas nécessairement, être des membres du Conseil d'Administration (si les actions ordinaires de la Société sont cotées à une bourse étrangère toujours sous réserve des exigences de cette bourse étrangère applicables à la Société et/ou de l'autorité de régulation compétente en relation avec cette cotation), déterminer le but, les pouvoirs et compétences ainsi que les procédures et les autres règles pour autant que de besoin.

Article 18. Indemnisation

18.1 Les membres du Conseil d'Administration ne sont pas tenus personnellement responsables des dettes ou des autres obligations de la Société. En tant que mandataires de la Société, ils sont responsables de l'exercice de leurs fonctions. Sous réserve des exceptions et limites prévues à l'Article 18.2 ainsi que des dispositions impératives de la loi, toute personne qui est, ou a été, membre du Conseil d'Administration ou dirigeant de la Société devra être indemnisé par la Société, dans toute la mesure permise par la loi, pour toute responsabilité et toute dépense raisonnablement engagées ou payées par lui en rapport avec toute réclamation, action, poursuite ou procédure dans lesquelles il est impliqué en tant que partie ou pour être ou avoir été un administrateur ou un dirigeant, et pour les sommes payées ou engagées par lui dans le règlement de celles-ci. Les mots «demande», «action », «poursuite» ou «procédure» s'appliqueront à toutes les demandes, actions, poursuites ou procédures (civiles, pénales ou autres, y compris les appels) actuelles ou menacées et les mots « responsabilité » et «dépenses» comprennent, sans limitation les frais d'avocat, les coûts, les jugements, les montants payés en transaction et autres passifs.

18.2 Aucune indemnisation ne sera due à tout administrateur, dirigeant ou actionnaire (i) contre toute responsabilité en raison de fautes intentionnelles, de mauvaise foi, de négligence grave ou d'une imprudence flagrante des tâches concernées dans l'exercice de sa fonction (ii) à l'égard de toute affaire dans laquelle il/elle aura été finalement condamné pour avoir agi de mauvaise foi et non contre l'intérêt de la Société ou (iii) dans le cas d'une transaction, à moins que la transaction ait été approuvée par un tribunal d'une juridiction compétente, ou par le Conseil d'Administration.

18.3 Le droit à indemnisation prévu ici est divisible, ne doit pas porter atteinte à tout autre droit auquel tout administrateur ou dirigeant peut présentement ou postérieurement avoir droit et doit continuer pour une personne qui a cessé d'être un tel administrateur ou dirigeant et bénéficiera aux héritiers, exécuteurs testamentaires et administrateurs d'une telle personne. Aucune de ces dispositions ne peut affecter ou limiter les droits à indemnisation dont le personnel de l'entreprise, y compris les administrateurs et dirigeants, peuvent avoir droit par contrat ou autrement en vertu de la loi. La Société est expressément habilitée à fournir une indemnisation contractuelle et peut souscrire et maintenir une assurance pour tout membre du personnel de l'entreprise, y compris les administrateurs et dirigeants de la Société, à tout moment.

Article 19. Représentation de la Société

Vis-à-vis des tiers, la Société sera engagée par la signature conjointe d'un Administrateur A et d'un Administrateur B, ou par la signature individuelle de la personne à laquelle la gestion journalière de la Société a été déléguée dans les limites d'une telle délégation, ou par la signature conjointe ou par la

signature individuelle de toutes personnes à qui un tel pouvoir de signature aura été délégué par le Conseil d'Administration, mais seulement dans les limites de ce pouvoir.

Article 20. Commissaires aux Comptes

20.1 Les transactions de la Société devront être contrôlées par un ou plusieurs commissaires aux comptes. L'assemblée générale des actionnaires devra nommer le(s) commissaire(s) aux comptes et devra déterminer leur mandat, lequel ne peut excéder six (6) ans.

20.2 Un commissaire aux comptes peut être révoqué à tout moment, sans préavis et avec ou sans motif, par l'assemblée générale des actionnaires.

20.3. Le(s) commissaire(s) aux comptes dispose(nt) d'un droit de regard et de contrôle permanent et illimité sur toutes les opérations de la Société.

20.4. Si l'assemblée générale des actionnaires de la Société nomme un ou plusieurs réviseurs d'entreprises agréés conformément à l'article 69 de la loi du 19 décembre 2002 relative au registre du commerce et des sociétés et à la comptabilité et aux comptes annuels des entreprises, telle que modifiée, la nomination des commissaires aux comptes n'est plus requise.

20.5. Un auditeur indépendant ne peut être révoqué que par l'assemblée générale des actionnaires pour un motif valable ou avec son approbation.

CHAPITRE IV. ASSEMBLÉE GÉNÉRALE DES ACTIONNAIRES

Article 21. Pouvoirs de l'Assemblée Générale des Actionnaires

L'assemblée générale des actionnaires de la Société et les détenteurs de Parts Bénéficiaires représentent l'ensemble des actionnaires et l'ensemble des détenteurs de Parts Bénéficiaires de la Société (l' **« Assemblée Générale »).** L'Assemblée Générale a tous les pouvoirs qui lui sont réservés par la loi.

Article 22. Assemblée Générale Annuelle

L'Assemblée Générale annuelle devra se tenir dans les six (6) mois suivant la fin de chaque exercice social au Grand-Duché de Luxembourg, au siège social de la Société ou à tout autre endroit au Grand-Duché de Luxembourg tel qu'indiqué dans la convocation de cette assemblée. D'autres Assemblées Générales peuvent être tenues au lieu et à l'heure spécifiés dans leurs convocations respectives. Les porteurs d'obligations n'ont pas le droit d'assister aux Assemblées Générales.

Article 23. Autres Assemblées Générales

23.1 Le Conseil d'Administration peut convoquer d'autres Assemblées Générales. De telles assemblées doivent être convoquées à la demande des actionnaires représentant au moins dix pour cent (10%) du capital social.

23.2 Les Assemblées Générales, y compris l'Assemblée Générale annuelle, peuvent se tenir à l'étranger chaque fois que des circonstances de force majeure, appréciées souverainement par le Conseil d'Administration, le requièrent.

23.3 Les Assemblées Générales sont convoquées conformément aux dispositions de la loi et si les actions ordinaires de la Société sont cotées sur une bourse étrangère, conformément aux exigences de cette bourse étrangère applicables à la Société.

23.4 Si les actions ordinaires de la Société sont cotées sur une bourse étrangère, tous les actionnaires inscrits dans un registre des actionnaires de la Société, le Porteur ou le Dépositaire, selon le cas, et les

détenteurs de Parts Bénéficiaires, ont le droit d'être admis à l'Assemblée Générale; cependant, le Conseil d'Administration pourra déterminer une date et une heure antérieures à l'Assemblée Générale comme date de référence pour l'admission à l'assemblée générale des actionnaires (la «**Date d'Inscription** »), qui ne pourra être inférieure à cinq (5) jours avant la date de cette assemblée.

23.5 Tout actionnaire de la Société, Porteur ou Dépositaire, selon le cas, et tout détenteur de Parts Bénéficiaires peut assister à l'Assemblée Générale en nommant une autre personne comme son mandataire, une telle nomination doit être faite par écrit d'une manière devant être déterminée par le Conseil d'Administration dans la convocation. Dans le cas d'actions ordinaires détenues par l'opérateur d'un système de compensation ou par un Dépositaire désigné par un tel Dépositaire, un porteur d'actions ordinaires qui souhaite assister à une Assemblée Générale doit recevoir de ces mêmes opérateurs ou Dépositaires un certificat attestant le nombre d'actions ordinaires inscrites dans le compte correspondant à la Date d'Inscription et attestant que ces actions ordinaires sont bloquées jusqu'à la clôture de l'Assemblée Générale en question. Le certificat devra être présenté à la Société au plus tard trois (3) jours ouvrables avant la date de cette assemblée générale. Si l'actionnaire ou le détenteur de Parts Bénéficiaires vote au moyen d'une procuration, la procuration doit être déposée au siège social de la Société ou chez tout autre agent de la Société, dûment autorisé à recevoir ces procurations, dans le même temps. Le Conseil d'Administration peut fixer un délai plus court pour le dépôt du certificat ou de la procuration.

Article 24. Procédure, Vote

24.1 Les actionnaires et les détenteurs de Parts Bénéficiaires se réunissent après convocation du Conseil d'Administration ou des commissaires aux comptes, conformément aux conditions fixées par la loi. La convocation envoyée aux actionnaires et détenteurs de Parts Bénéficiaires indiquera la date, l'heure et le lieu de l'Assemblée Générale ainsi que l'ordre du jour et la nature des affaires à traiter lors de l'Assemblée Générale des actionnaires.

24.2 Si tous les actionnaires et détenteurs de Parts Bénéficiaires sont présents ou représentés à une Assemblée Générale et déclarent avoir eu connaissance de l'ordre du jour de l'Assemblée Générale, celle-ci peut se tenir sans convocation préalable.

24.3 Un actionnaire et un détenteur de Parts Bénéficiaires peuvent agir à toute Assemblée Générale en désignant par écrit, par télécopie, par courriel, par courrier ou tout autre moyen de communication écrit, un mandataire qui ne doit pas obligatoirement être un actionnaire ou un détenteur de Parts Bénéficiaires.

24.4 Chaque actionnaire et chaque détenteur de Parts Bénéficiaires peut voter à une Assemblée Générale par un formulaire de vote signé envoyé par courrier ou par télécopie ou par tout autre moyen de communication autorisé par le Conseil d'Administration, et livré au siège social de la Société ou à l'adresse figurant dans la convocation. Les actionnaires et détenteurs de Parts Bénéficiaires ne peuvent utiliser que les formulaires de vote fournis par la Société qui contiennent au moins le lieu, la date et l'heure de la réunion, l'ordre du jour de la réunion, les propositions soumises aux décisions de l'Assemblée Générale ainsi que pour chaque proposition, trois cases permettant à l'actionnaire et au détenteur de Parts Bénéficiaires de voter en faveur ou contre la résolution proposée ou de s'abstenir de voter en cochant les cases appropriées. La Société ne tiendra compte que des formulaires de

vote reçus au plus tard trois (3) jours ouvrables avant la date de l'Assemblée Générale à laquelle ils se rapportent. Le Conseil d'Administration peut fixer une période plus courte pour la réception des formulaires de vote.

24.5. Le Conseil d'Administration peut déterminer toutes les autres conditions à remplir pour participer à l'Assemblée Générale.

24.6. Sauf disposition contraire de la loi ou des présent Statuts, les décisions seront prises à la majorité simple des voix, quel que soit le nombre d'actionnaires et de détenteurs de Parts Bénéficiaires présents ou représentés à l'Assemblée Générale.

24.7. Un vote est attaché à chaque action ordinaire émise. Chaque Part Bénéficiaire donne droit à une voix à son détenteur.

24.8. Des copies des extraits du procès-verbal de l'assemblée à produire en justice ou autrement seront signées par deux Administrateurs ou par le Président du Conseil d'Administration.

CHAPITRE V. ANNÉE SOCIALE, RÉPARTITION DES BÉNÉFICES

Article 25. Année Sociale

L'année sociale de la Société commence le premier janvier de chaque année et finit le trente et un décembre de la même année. Le Conseil d'Administration doit préparer les comptes annuels de la société conformément à la loi luxembourgeoise et à la pratique comptable.

Article 26. Répartition des Bénéfices

26.1 Sur les bénéfices nets de la Société il sera prélevé cinq pour cent (5 %) pour la formation d'un fonds de réserve légale. Ce prélèvement cesse d'être obligatoire lorsque et aussi longtemps que la Réserve Légale atteindra dix pour cent (10%) du capital émis.

26.2 L'Assemblée Générale décide de l'affectation du solde des bénéfices annuels nets. Elle peut décider de verser la totalité ou une partie du solde à un compte de réserve ou de provision, de le reporter à nouveau ou de le distribuer aux actionnaires comme dividendes.

26.3 Dans les conditions établies par la loi, le Conseil d'Administration peut payer une avance sur les dividendes. Le Conseil d'Administration détermine la date et le montant de tout payement d'acompte sur dividendes.

CHAPITRE VI. DISSOLUTION, LIQUIDATION

Article 27. Dissolution, Liquidation

27.1 La Société peut être dissoute par une résolution de l'Assemblée Générale délibérant aux mêmes conditions de quorum et de majorité que celles exigées pour toute modification des Statuts, sauf dispositions contraires de la loi.

27.2 En cas de dissolution de la Société, la liquidation sera effectuée par un ou plusieurs liquidateurs nommés par l'Assemblée Générale et qui fixera les pouvoirs et émoluments de chacun des liquidateurs.

27.2 Le surplus résultant de la réalisation de l'actif et du paiement de l'ensemble des dettes sera réparti entre les actionnaires en proportion du nombre des actions ordinaires qu'ils détiennent dans la Société.

CHAPITRE VII. MODIFICATION DES STATUTS

Article 28. Modifications des Statuts

Les présents Statuts peuvent être modifiés par une résolution de l'Assemblée Générale adoptée à un quorum de cinquante pour cent (50%) du capital social de la Société et une majorité des deux tiers des voix des actionnaires et des détenteurs de Parts Bénéficiaires de la Société, à condition que l'ordre du jour de l'Assemblée Générale indique les

modifications proposées et qu'une copie des statuts coordonnés soit mise à disposition au siège social de la Société au moins huit (8) jours avant l'assemblée générale des actionnaires et des détenteurs de Parts Bénéficiaires.

Article 29. Changement de nationalité

Les actionnaires peuvent changer la nationalité de la Société par une résolution de l'Assemblée Générale adoptée de la manière requise pour une modification des Statuts.

CHAPITRE VIII. LOI APPLICABLE

Article 30. Loi Applicable

Toutes les questions qui ne sont pas régies par les présents Statuts seront déterminées conformément à la Loi. En cas de contradiction entre les dispositions d'un pacte d'actionnaires qui pourrait être conclu à tout moment par les actionnaires de la Société, les termes de ce pacte prévaudront inter partes et dans la mesure permise par loi luxembourgeoise.

STATUTS COORDONNES, délivrés à la société sur sa demande.

Belvaux, le 03 décembre 2020.

TERMS AND CONDITIONS GOVERNING EMPLOYEE STOCK OPTIONS 2021/2026 IN SPOTIFY TECHNOLOGY S.A.

1. EMPLOYEE STOCK OPTION ISSUER AND HOLDER

1.1 Spotify Technology S.A., a Luxembourg *société anonyme*, with registered address at 42-44, avenue de la Gare, L-1610 Luxembourg, registered with the Luxembourg Trade and Companies' Register under number B 123.052 (the "**Company**").

1.2 Employee of the Company or of any affiliate, subsidiary or other company controlled by the Company (collectively, the "**Group,**" each individually, a "**Group Company**") who has received an individual notice of grant (the "**Holder**").

2. BACKGROUND

2.1 The Company's board of directors (the "**Board**") considers the existence of efficient share-related incentive programs for employees of the Group to be of material importance for the development of the Group. By connecting employees' economic interests to the Group's results and value trend, a long-term increase in value is promoted. Accordingly, the interests of participating employees and shareholders will coincide.

2.2 The foregoing notwithstanding, this employee stock option program 2021/2026 (the **"Employee Stock Option Program"**) shall not form part of the Holders' overall compensation and benefits under their contracts of employment with a Group Company, and, for the avoidance of doubt, shall not entitle any Holder to any pension or other similar benefits. In addition, the existence of a contract of employment between a Holder and a Group Company shall not give the Holder any right or expectation to be granted Employee Stock Options at any time under the Employee Stock Option Program or otherwise. Moreover, the granting of an Employee Stock Option shall not give the Holder any right or expectation to be granted additional Employee Stock Options at any time under the Employee Stock Option Program or otherwise.

3. OPTION; SHARES AVAILABLE

3.1 Subject to the terms and conditions set out herein, the Holder is entitled to delivery of one share in the Company (a "**Share**") per employee stock option (an "**Employee Stock Option**") at the exercise price communicated to the Holder (the "**Exercise Price**"). The Exercise Price may be re-calculated under certain circumstances pursuant to clause 8. Subject to the provisions of clauses 8 and 9.3.3, the maximum aggregate number of Shares that may be subject to Employee Stock Options under the Pool is 31,850,000 Shares.

3.2 "**Pool**" means the Shares granted under the Employee Stock Option Program and the Terms and Conditions Governing Employee Restricted Stock Units 2021/2026 in Spotify Technology S.A. (each, a "**Pool Plan**").

Shares available for grant or sale under the Pool will be reduced by the net shares granted under any of the Pool Plans.

4. IMPLEMENTATION AND GRANT

4.2 The Employee Stock Option Program shall be effective as per 1 April 2021 (the "**Implementation Date**").

4.3 Employee Stock Options may be granted to Holders during the period as from and including 1 April 2021 up to and including 31 March 2026. The determination of the employees who will be granted Employee Stock Options, and the date or dates of grant of Employee Stock Options during such period (each, a "**Date of Grant**"), shall be determined by the Board in its sole discretion.

5. VESTING

5.1 General

5.1.1 Subject to continued employment with the Group, vesting of the granted Employee Stock Options shall occur on the same date in each relevant calendar month as the Date of Grant in accordance with the following:

(a) initially, 3/48 shall vest on the third calendar month following the Date of Grant; and
(b) thereafter, 1/48 shall vest each calendar month.

Notwithstanding the foregoing, if there is no such date specified in (a) or (b) in the relevant calendar month, vesting shall occur on the last day of such month. The vesting schedule set out in this clause 5.1.1 may be amended pursuant to clause 5.2, 5.3 and 9.

5.1.2 Notwithstanding the aforesaid, the Board shall be entitled, in its sole discretion, to resolve that some or all unvested Employee Stock Options shall vest in advance.

5.2 Leave of absence

5.2.1 If the Holder goes on leave of absence, such Holder's Employee Stock Options will not vest during the leave of absence, except as set forth below in this clause 5.2. The Employee Stock Options that do not vest during the leave of absence as a consequence of the Holder's leave of absence shall lapse immediately, if not otherwise determined by the Board.

5.2.2 If the Holder is on leave of absence due to parental leave, sick leave, vacation leave or other paid time off, such Holder's Employee Stock Options shall continue to vest on the original vesting schedule during the leave of absence. The same shall apply for any other leave of absence during which vesting on the original schedule must continue under applicable law.

5.2.3 If the Holder is on leave of absence due to any other reason (e.g. studying) than as set out in clause 5.2.2, or if the Holder otherwise reduces his/her contractual working hours for the employer after the Date of Grant of the Holder's Employee Stock Options, but the Holder still works part-time for the employer, such Holder's Employee Stock Options shall vest pro rata in relation to a full-time job. If the Holder's contractual working hours prior to leave of absence or reduction of contractual working hours did not amount to a full-time job, such Holder's Employee Stock Options shall vest pro rata in relation to the contractual working hours prior to such leave of absence or reduction of contractual working hours. The same shall apply for any other leave of absence during which pro rata vesting must continue under applicable law. For the purpose of this clause 5.2.3, a full-time job shall correspond to the number of working hours per week set out in the Holder's employment agreement as the standard for a full-time job.

5.3 Termination of employment

5.3.1 If (i) the Holder resigns, or (ii) the employer terminates the employment of the Holder with the Group (for whatever reason), or (iii) the Holder retires pursuant to the terms of his/her employment contract or regulatory requirements, all unvested Employee Stock Options shall cease vesting as of the date of termination of employment and shall immediately lapse.

5.3.2 If (i) the Holder resigns, or (ii) the employer terminates the employment of the Holder with the Group, or (iii) the Holder is exempt from work in connection with an anticipated termination of employment, or (iv) the Holder retires pursuant to the terms of his/her employment contract or regulatory requirements, termination of employment for purposes of the Employee Stock Options shall be deemed to occur immediately after the end of the last day of employment, taking into account any notice period (but, for the avoidance of doubt, not including any further period over which any severance payment or consideration for non-compete restriction or similar is paid out).

Notwithstanding the foregoing, the Board shall be entitled, in its sole discretion, to resolve that termination of employment shall be deemed to occur at a later point in time.

5.3.3 If a Holder changes the entity for which he or she is employed, but remains employed by the Group, such change will not be deemed a termination of employment for purposes of his/her Employee Stock Options, provided that there is no other interruption or termination of the Holder's employment, unless the Board, in its sole discretion, determines that the entity to which the Holder transfers is not a qualified affiliate of the Group. If a Holder changes the capacity in which he/she provides service to the Group from an employee to an independent contractor or consultant, such change will be deemed a termination of employment for purposes of his/her Employee Stock Options.

5.3.4 If the Holder, when he/she commences his/her employment with the Group, is subject to a probationary or trial employment and, at the end of such probationary or trial employment, the employment with the Group is terminated (for whatever reason), all vested and unvested Employee Stock Options shall lapse on the date of termination of employment, meaning, for the avoidance of doubt, that the Holder will not be entitled to exercise any Employee Stock Options.

6. EXERCISE

6.1 General

6.1.1 The Holder is entitled to exercise his/her rights under the Employee Stock Options to the extent the Employee Stock Options have vested pursuant to these terms and conditions by requesting exercise at any time up to and including the fifth anniversary of the Date of Grant in the manner set forth below ("**Exercise**"), provided such Employee Stock Options have not previously lapsed.

6.1.2 In the event the Holder has not requested Exercise on or before the fifth anniversary of the Date of Grant (such date, or an earlier date set for the expiration of the term of the Employee Stock Options as provided for in clause 9, the "**Expiration Date**"), all rights under the Employee Stock Options shall lapse.

6.1.3 Exercise may only be requested through an electronic platform and with no paper documentation to be executed by the Holder. To this effect, the Holder will receive an individual username and an individual password from the Company, giving her/him access to a personal account on the electronic platform. Once the Holder will have logged-in and accepted the terms and conditions of the Employee Stock Option Program applicable to her/him, she/he will have the possibility (i) to place requests on the said electronic platform in order to exercise some or all of her/his vested Employee Stock Options (the "**Exercise Request**") and (ii) carry out any actions required to settle the Holder's Payment Obligations (as defined in clause 7.1).

6.1.4 The Exercise Request placed by the Holder must be placed not later than on the Expiration Date and state the number of Employee Stock Options that the Holder wishes to Exercise. An Exercise Request is binding and irrevocable.

6.1.5 If the Holder's Employee Stock Options at Exercise entitle the Holder to subscribe for a number of Shares which is not an integer, the number of Shares to which the entitlement relates shall be rounded down to the nearest integer.

6.1.6 Exercise may not take place in the event the Company is declared bankrupt. However, Exercise may take place in the event the bankruptcy order is subsequently overturned on appeal.

6.1.7 The Expiration Date and the periods during which Exercise can take place may be amended pursuant to this clause 6, clause 9, or by other express action of the Board as provided for in these terms and conditions.

6.2 **Termination of employment**

6.2.1 If the Holder resigns, the employer terminates the employment of the Holder with the Group or the Holder is exempt from work in connection with an anticipated termination of employment, in any such case other than as a result of death or a physical disability and other than as a result of (i) the Holder's wilful failure to perform, or serious negligence or misconduct in the performance of his/her duties and responsibilities as an employee; or (ii) any breach by the Holder of any material provision of these terms and conditions, and/or any breach of any material provision of his/her employment agreement; or (iii) the Holder's violation of any material policy of any Group Company or any other material external (e.g., professional) standards or codes of conduct to which the Holder may be subject; or (iv) the Holder's breach of any fiduciary duty or duty of loyalty owed to any Group Company or the Holder's commission of fraud, embezzlement, theft or other act of dishonesty with respect to any Group Company; or (v) the Holder's commission of, or plea of guilty or *nolo contendere* to, a felony or other crime involving moral turpitude or affecting any Group Company; or (vi) any act or failure to act by the Holder that the Holder knows or reasonably should know is likely to be materially injurious to the business or reputation of the Group or any Group Company; or (vii) any other circumstance constituting just cause for dismissal due to personal grounds (Sw. *saklig grund för uppsägning på grund av personliga skäl*) under Swedish law or similar circumstances under other applicable law (each of (i) through (vii) a "**Cause**"), or if the Holder retires pursuant to the terms of his/her employment contract or regulatory requirements, the new Expiration Date shall be the 90th calendar day following the termination of employment (as determined pursuant to clause 5.3.2) or such later dates as determined by the Company (but in no event later than the fifth anniversary of the Date of Grant or such date as follows pursuant to clause 9).

6.2.2 In the event that the Holder's termination of employment occurs due to death or physical disability, the new Expiration Date shall be the 194th calendar day following such event or such later dates as determined by the Company (but in no event later than the fifth anniversary of the Date of Grant or such date as follows pursuant to clause 9). The Holder (or, in the event of the Holder's death, the Holder's estate (Sw. *dödsbo*)) shall up to and including the new Expiration Date be entitled to Exercise any Employee Stock Options, which have vested in accordance with these terms and conditions as of such event. Following the new Expiration Date, the Holder (or, in the event of the Holder's death, the Holder's estate) shall have no rights pursuant to the Employee Stock Options and all rights under the Employee Stock Options which have not been subject to Exercise shall lapse. In the event of the Holder's death, the rights and obligations in accordance with these terms and conditions shall be binding upon and inure to the Holder's estate.

6.2.3 Notwithstanding the foregoing, should the Holder's employment be terminated for Cause, all the Holder's Employee Stock Options shall immediately lapse and may not be subject to Exercise.

7. PAYMENT AND DELIVERY OF SHARES

7.1 Payment of the Exercise Price and, to the extent applicable, (i) any Withholding Obligation (as defined in clause 13.1 below) and (ii) Holder's Tax Liability (as defined in clause 13.2 below), in each case as and to the extent the Board requires in its sole discretion (Holder's obligation to pay the Exercise Price jointly with any such Withholding Obligation or Holder's Tax Liability that the Board requires to be so settled, the "**Holder's Payment Obligations"**) shall, unless the Board determines otherwise, be satisfied by a "cash settlement" arrangement pursuant to which the Holder's Payment Obligations shall be satisfied with money that shall have been paid by the Holder to the Holder's personal account on the electronic platform ("**Cash Settlement**").

7.2 To the extent the Board determines that Cash Settlement will not be used to satisfy a Holder's Payment Obligations, the Board may require the Holder to satisfy such Holder's Payment Obligations by any other method or combination of methods determined in the Board's sole discretion, including, without limitation, by

(i) placing a market sell order with a broker acceptable to the Board covering the minimum number of Shares (rounded up to the nearest whole Share) then being distributed in respect of vested Employee Stock Options as are sufficient to satisfy such Holder's Payment Obligations. The net proceeds of such sale shall be delivered to the Company or its applicable Subsidiary upon the settlement of such sale, and any excess proceeds resulting from rounding up to the nearest whole Share shall be deposited into the Holder's account on the electronic platform; or

(ii) a "net settlement" arrangement pursuant to which the Company will reduce the number of Shares deliverable to the Holder upon vesting or settlement by the minimum number of Shares (rounded up to the nearest whole Share, without any consideration to the Holder for such rounding) as are sufficient to satisfy Holder's Payment Obligations.

7.3 If the Company receives a valid Exercise Request and all actions required by the Holder to settle the Holder's Payment Obligation have been completed, the Company shall deliver Shares to the Holder within 10 days on which banks are open for business generally (and not for internet banking only) in Luxembourg and the U.S (a "**Business Day**") (less any Shares reduced or sold pursuant to this clause 7).

7.4 As a condition to the exercise of an Employee Stock Option, the Holder shall make such arrangements as the Board may require for the satisfaction of any Holder's Payment Obligations that may arise in relation to the Employee Stock Options.

8. RE-CALCULATION OF EXERCISE PRICE

The Exercise Price and the number of Shares to which each Employee Stock Option entitles the Holder to subscribe for shall be re-calculated in the event that there are changes in the Company's share capital by way of a bonus issue of shares, share split, reverse share split, or a reduction of the share capital (a "**Re-calculation Event**"), in order not to affect the value of the Employee Stock Options. The re-calculation shall be carried out by the Board in accordance with the following formula:

$$n_4 = n_3 \times \left(\frac{n_1 + n_2}{n_1}\right)$$

where:

n_1 = number of shares issued in the Company prior to the Re-calculation Event
n_2 = number of shares issued/reduced in the Re-calculation Event
n_3 = number of Shares which each Employee Stock Option entitled the Holder to subscribe for immediately prior to the Re-calculation Event
n_4 = number of Shares that each Employee Stock Option gives the right to subscribe for after the Re-calculation Event

Consequently, the Exercise Price for the Employee Stock Option shall be re-calculated in accordance with the following formula:

$$p_2 = p_1 \times \left(\frac{n_1}{n_1 + n_2}\right)$$

where (in addition to the above definitions):

p_1 = Exercise Price per Share prior to the Re-calculation Event
p_2 = Exercise Price per Share after the Re-calculation Event

In the event that a Re-calculation Event would lead to an Exercise Price after the Re-calculation Event which is less than the par value of the Company's shares, the Exercise Price at Exercise shall instead equal the par value of the Company's shares.

9. AMENDMENT OF VESTING SCHEDULE AND EXPIRATION DATE ETC.

9.1 **Change in Control**

9.1.1 In the event of a Change in Control the Board may, in its sole discretion, decide to (i) set a period during which the Holder may request Exercise (an "**Exercise Period**") and, if determined by the Board, a new Expiration Date, in accordance with the provisions of clause 9.1.2, (ii) have these terms and conditions continue following the Change in Control in accordance with the provisions of clause 9.1.3, (iii) allow a grant of substantially equivalent rights (i.e., among other things, that preserves the intrinsic value and vesting schedule of the Employee Stock Options) to acquire securities in a new company as the Holder had in the Company immediately before the Change in Control in accordance with the provisions of clause 9.1.4, or (iv) allow an amendment of the terms and conditions to the effect that, following the Change in Control, a new company assumes the Company's rights and obligations hereunder in accordance with the provisions of clause 9.1.5.

9.1.1.1 *"**Change in Control**" shall mean and include each of the following:*

*(i) a transaction or series of transactions (other than an offering of Shares to the general public through a registration statement filed with the Securities and Exchange Commission) whereby any "person" or related "group" of "persons" (as such terms are used in Sections 13(d) and 14(d)(2) of the Securities Exchange Act of 1934, as amended from time to time (the "**Exchange Act**")) directly or indirectly acquires beneficial ownership (within the meaning of Rules 13d-3 and 13d-5 under the Exchange Act) of securities of the Company possessing more than 50% of the total combined voting power of the Company's securities outstanding immediately after such acquisition; provided, however, that the following acquisitions shall not constitute a Change in Control: (w) any acquisition by the Company; (x) any acquisition by an employee benefit plan maintained by the Company, (y) any acquisition which complies with clauses 9.1.1.1(iii)(I)-(III); or (z) in respect of an Employee Stock Option held by a particular Holder, any acquisition by the Holder or any group of persons including the Holder (or any entity controlled by the Holder or any group of persons including the Holder);*

(ii) the Incumbent Directors cease for any reason to constitute a majority of the Board;

*(iii) the consummation by the Company (whether directly involving the Company or indirectly involving the Company through one or more intermediaries) of (x) a merger, consolidation, reorganization, or business combination, (y) a sale or other disposition of all or substantially all of the Company's assets in any single transaction or series of related transactions or (z) the acquisition of assets or stock of another entity, in each case other than a transaction: (I) which results in the Company's voting securities outstanding immediately before the transaction continuing to represent (either by remaining outstanding or by being converted into voting securities of the Company or the person that, as a result of the transaction, controls, directly or indirectly, the Company or owns, directly or indirectly, all or substantially all of the Company's assets or otherwise succeeds to the business of the Company (the Company or such person, the "**Successor Entity**")) directly or indirectly, at least a majority of the combined voting power of the Successor Entity's outstanding voting securities immediately after the transaction, and (II) after which no person or group beneficially owns voting securities representing 50% or more of the combined voting power of the Successor Entity; provided, however, that no person or group shall be treated for purposes of this clause (II) as beneficially owning 50% or more of the combined voting power of the Successor Entity solely as a result of the voting power held in the Company prior to the consummation of the transaction; and (III) after which at least a majority of the members of the board of directors (or the analogous governing body) of the Successor Entity were Board members*

at the time of the Board's approval of the execution of the initial agreement providing for such transaction; or

(iv) the date which is 10 Business Days prior to the completion of a liquidation or dissolution of the Company.

9.1.1.2 *"**Incumbent Directors**' shall mean for any period of 12 consecutive months, individuals who, at the beginning of such period, constitute the Board together with any new director(s) (other than a director designated by a person who shall have entered into an agreement with the Company to effect a transaction described in clause 9.1.1.1(i) or 9.1.1.1(iii)) whose election or nomination for election to the Board was approved by a vote of at least a majority (either by a specific vote or by approval of the proxy statement of the Company in which such person is named as a nominee for director without objection to such nomination) of the directors then still in office who either were directors at the beginning of the 12-month period or whose election or nomination for election was previously so approved. No individual initially elected or nominated as a director of the Company as a result of an actual or threatened election contest with respect to directors or as a result of any other actual or threatened solicitation of proxies by or on behalf of any person other than the Board shall be an Incumbent Director.*

9.1.2 If the Board decides to set an Exercise Period, the Board shall notify the Holder in connection with the Change in Control of the Exercise Period and, if the Board so decides, the new Expiration Date. 50 per cent of the Holder's unvested Employee Stock Options shall vest as of the date of the Board's notice or on any other date set out in the Board's notice. The notice will set forth the Exercise Period, which shall, to the extent possible taking into account the circumstances and process related to the Change in Control, give the Holder reasonable time to decide whether to Exercise any vested Employee Stock Options. The Holder shall during the Exercise Period be entitled to Exercise any Employee Stock Options which have vested in accordance with these terms and conditions. The Board shall be entitled, in its sole discretion, to decide whether to adopt a new Expiration Date so that, at the conclusion of such Exercise Period, any unvested Employee Stock Options shall lapse, or whether unvested Employee Stock Options will continue to vest. If the Board decides that any unvested Employee Stock Options shall continue to vest, only 3/96 part of the Holder's Employee Stock Options shall vest at the first cliff vesting occasion set out in clause 5.1.1(a), if the Board's notice is given prior to such date, and only 1/96 part of the Holder's Employee Stock Options shall vest on each subsequent regularly scheduled vesting occasion as set out in clause 5.1.1(b). The Board shall also be entitled, in its sole discretion, to decide whether any vested Employee Stock Options which have not been subject to Exercise during an Exercise Period shall be subject to a new Expiration Date and therefore lapse, or whether the vested Employee Stock Options will be exercisable following the expiration of an Exercise Period. If the Board decides to establish a new Expiration Date so that any unvested, and/or any vested but unexercised, Employee Stock Options shall lapse, the Holder shall have no further rights pursuant to the Employee Stock Options.

9.1.3 If the Board decides to have these terms and conditions continue following the effective date of the Change in Control, the vesting schedule and the Expiration Date, as set forth in clause 5 and 6 respectively, shall remain unaffected by the Change in Control.

9.1.4 If the Board decides to allow a grant of substantially equivalent rights to acquire securities in a new company as the Holder had in the Company immediately before the Change in Control, all vested and unvested Employee Stock Options shall lapse as of the closing of the Change in Control and, subject to the grant of such substantially equivalent rights, the Holder shall have no further rights pursuant to the Employee Stock Options after the closing of the Change in Control.

9.1.5 If the Board decides to allow an amendment of the terms and conditions to the effect that, following the Change in Control, a new company assumes the Company's rights and obligations hereunder, the Holder's right to subscribe for Shares in accordance with clause 3 shall relate to shares in such new company.

9.1.6 If the Group, or any successor thereto, in connection with or within a period of 6 months following the closing of a Change in Control, terminates the employment of the Holder, other than for Cause, and if any Employee Stock Options are subject to continued vesting after the Change in Control in accordance with this clause 9.1, all of the Holder's unvested Employee Stock Options shall vest as of the date of his or her termination of employment.

9.2 **Merger and de-merger**

In the event of a merger through which the Company is absorbed into another company (other than a Change in Control) or a de-merger through which the Company is divided into two or more new entities (other than a Change in Control), the Board shall, before the adoption of any resolution in the aforementioned respects, determine an Exercise Period, the first day of which shall fall at least 20 calendar days after the date of the notice by the Board to the Holder of such Exercise Period. During such Exercise Period the Holder shall be entitled to Exercise any Employee Stock Options which have vested in accordance with these terms and conditions. At the conclusion of such Exercise Period, all Employee Stock Options which have not been subject to Exercise during the Exercise Period shall lapse and the Holder shall have no rights pursuant to the Employee Stock Options.

9.3 **Share for share exchange etc.**

9.3.1 If the Company's shareholders perform a share for share exchange for the purpose of creating a new holding company to the Company, or if a new company otherwise replaces the Company as the holding company in the Group, and such transaction is not a Change in Control, the Board shall use reasonable efforts to either: (a) ensure that the Holder receives substantially equivalent rights to acquire securities in the new holding company as the Holder had in the Company immediately before such transaction, provided that the Holder in writing waives any rights under the Employee Stock Options, which shall lapse as a consequence thereof; or (b) amend these terms and conditions to the effect that the new holding company assumes the Company's rights and obligations hereunder and that the Holder's right to subscribe for Shares in accordance with clause 3 shall relate to shares in the new holding company.

9.3.2 In the event of a transaction as described in clause 9.3.1, the Holder shall always be obliged upon the Board's request to, in case of (a) in clause 9.3.1, waive any rights under the Employee Stock Options provided that the Holder receives substantially equivalent rights in the new holding company as the Holder had in the Company immediately before such transaction or, in case of (b) in clause 9.3.1, approve any such amendment to these terms and conditions. No waiver shall be requested or required, and the Company may act unilaterally in accordance with this clause 9.3.2, provided that the Employee Stock Options preserve the material terms and conditions of the underlying rights, including the vesting schedule and the intrinsic value of the Employee Stock Option as of immediately prior to such transaction.

9.3.3 If the Company effects a change of the classes of outstanding Company securities, the Board shall, appropriately and proportionately adjust the class of securities subject to the Employee Stock Options. The Board will make such adjustments, and its determination will be final, binding and conclusive.

10. CANCELLATION OF EMPLOYEE STOCK OPTIONS IN CASE OF A MATERIAL BREACH

10.1 If the Holder commits a material breach of any of its obligations under these terms and conditions, and the breach has not been rectified within 15 calendar days from the date the Holder receives a written demand for rectification, the Company shall be entitled to cancel the Holder's unexercised Employee Stock Options (vested as well as unvested) which as a consequence thereof shall lapse.

10.2 A material breach for purposes of clause 10 and 11 shall mean a breach by the Holder of the provisions in clauses 7.2, 9.3, 12, 13, 15.1 or 15.5 or any other breach by the Holder of these terms and conditions that is reasonably likely to have a material adverse effect on the Company.

11. LIQUIDATED DAMAGES IN CASE OF A MATERIAL BREACH

11.1 If the Holder commits a material breach in accordance with clause 10.2 and the breach has not been rectified within 15 calendar days from the date the Holder receives a written demand for rectification, the Holder shall upon written request by the Company pay liquidated damages in an amount corresponding to 50 per cent of the aggregate then-current fair market value of the Shares represented by, or delivered upon exercise of, the Employee Stock Options. The Company shall not be entitled to demand liquidated damages if the Company has cancelled the Holder's Employee Stock Options pursuant to clause 10.1.

11.2 If the Holder commits a material breach of any of its obligations under these terms and conditions, the Company is entitled, in addition to any liquidated damages in accordance with the provisions of clause 11.1, to claim damages in an amount corresponding to the difference between the actual damage suffered and the liquidated damages (if any), if such damage exceeds the amount of the liquidated damages (if any).

11.3 The payment by the Holder of any liquidated damages and regular damages shall not affect the Company's right to pursue other remedies that the Company may have against the Holder as a result of a breach.

12. Appointment of agent etc.

12.1 The Holder hereby irrevocably authorises the Board, with full power of substitution, to endorse such documents on behalf of the Holder and to take any other action reasonably necessary to effect any of the Holder's obligations under these terms and conditions, including but not limited to, execution of a transfer of Shares owned by the Holder. The Board shall hold any payment received for the benefit of the Holder under this clause 12 on behalf of the Holder and separated from any other funds. A withdrawal of the authorisation as provided for in this clause 12 constitutes a material breach of these terms and conditions for purposes of clause 10 and 11.

12.2 The Holder hereby undertakes to sign, execute and deliver such documents, and to take any other actions, as reasonably required by the Board in order to ensure compliance with or observation of the Holder's obligations under these terms and conditions.

13. PAYMENT OF CERTAIN TAXES

13.1 The Group will perform withholding of taxes in relation to the Employee Stock Options and the Shares acquired at Exercise if and to the extent required by law or decisions by governmental authorities or if the Board in its reasonable opinion considers it appropriate for the Group to perform such withholding of taxes (any such withholding tax obligation of the Holder, "**Withholding Obligation**"). For the avoidance of doubt, this clause 13.1 shall not affect the Holder's liabilities and undertakings pursuant to the remainder of this clause 13.

13.2 The Holder is liable for and undertakes to pay any taxes (including but not limited to income taxes, capital taxes, employment taxes, social security contributions as well as any tax penalties thereon) for which he/she may be liable in relation to the Employee Stock Options and any Shares acquired at Exercise ("**Holder's Tax Liability**"). For the avoidance of doubt, any Withholding Obligation (whether preliminary or deducted at source) on employment income, dividends and capital gains will always be considered as Holder's Tax Liability.

13.3 The calculation of any Withholding Obligation or Holder's Tax Liability, as applicable, will be subject to applicable rules and regulations and based on the applicable tax rates, as determined by the Board in its sole discretion in connection with determining the Holder's Payment Obligations.

13.4 The Group assumes no responsibility for any Holder's Tax Liability. The Holder represents that the Holder is not relying on the Group for any tax advice and explicitly agrees not to demand any compensation from the Group to cover any Holder's Tax Liability.

14. DATA PROTECTION

For the purposes of implementing, managing and administering the Employee Stock Option Program, and for the Holder to participate in the Employee Stock Option Program, it is necessary for the Company, acting as a data controller, and other companies in the Group to process the Holder's personal data. For more information regarding the processing of the Holder's personal data, see the Company's separate privacy notice which can be found in the ESOP Portal, that can be reached through the Internal Services webpage.

15. MISCELLANEOUS

15.1 The Employee Stock Options may not be transferred, otherwise disposed, pledged, borrowed against or used as any form of security.

15.2 The Company shall be entitled to amend these terms and conditions to the extent required by legislation, regulations, court decisions, decisions by public authorities or agreements, or if such amendments, in the reasonable judgment of the Company, are otherwise necessary for practical reasons, and provided in all of the aforementioned cases that the Holder's rights are in no material respects adversely affected. If the Holder's rights would be materially adversely affected, the Holder's written consent shall be necessary for such amendment.

15.3 Nothing in these terms and conditions or in any right or Employee Stock Option granted under these terms and conditions shall confer upon the Holder the right to continue in employment for any period of specific duration or interfere with or otherwise restrict in any way the rights of the Group or of the Holder, which rights are hereby expressly reserved by each, to terminate his or her employment at any time.

15.4 The Holder has no right to compensation or damages for any loss in respect of the Employee Stock Option where such loss arises (or is claimed to arise), in whole or in part, from the termination of the Holder's employment; or notice to terminate employment given by or to the Holder. However, this exclusion of liability shall not apply however to termination of employment, or the giving of notice, where a competent tribunal or court, from which there can be no appeal (or which the relevant employing company has decided not to appeal), has found that the cessation of the Holder's employment amounted to unfair or constructive dismissal of the Holder.

15.5 The Holder undertakes not to use or disclose the contents of these terms and conditions, or any financial information, trade secrets, customer lists or other information which it may from time to time receive or obtain (orally or in writing or in disc or electronic form) as a result of entering into or performing its obligations pursuant to these terms and conditions or otherwise, relating to the Group unless: (i) required to do so by law or pursuant to any order of court or other competent authority or tribunal; or (ii) such disclosure has been consented to by the Company, provided, however, that the Holder may disclose the terms and conditions of his or her Employee Stock Options to the Holder's spouse, personal attorney and/or tax preparer. If a Holder becomes required, in circumstances contemplated by (i) to disclose any information, the disclosing Holder shall use its best efforts to consult with the Company prior to any such disclosure.

15.6 Shares will not be issued or delivered under this Employee Stock Option Program unless the issuance and delivery of such Shares comply with (or are exempt from) all applicable requirements

of law, including (without limitation) the Securities Act of 1933, as amended, the rules and regulations promulgated thereunder, state securities laws and regulations, and the regulations of any stock exchange or other securities market on which the Company's securities may then be traded. In addition to the terms and conditions provided herein, the Board may require that a Holder make such reasonable covenants, agreements and representations as the Board, in its sole discretion, deems advisable in order to comply with applicable law. The Board shall have the right to require any Holder to comply with any timing or other restrictions with respect to the settlement, distribution or exercise of any Employee Stock Option, including a window-period limitation, as may be imposed in the sole discretion of the Board.

16. TERM AND TERMINATION

These terms and conditions shall enter into force on the Implementation Date and remain in force until close of business in Sweden on 31 March 2031. The parties shall, however, after such date continue to be bound by the provisions set out in clause 15.5 and 17.

17. GOVERNING LAW AND JURISDICTION

17.1 These terms and conditions shall be governed by and construed in accordance with the substantive law of Sweden (excluding its rules on conflict of laws).

17.2 The Company and the Holder undertake to use their best efforts to resolve any disagreements or disputes regarding these terms and conditions between them or any two or more of them through discussions and mutual agreement.

17.3 Any dispute, controversy or claim arising out of or in connection with these terms and conditions, or the breach, termination or invalidity thereof, shall be finally settled by arbitration in accordance with the Arbitration Rules of the Arbitration Institute of the Stockholm Chamber of Commerce. Unless otherwise agreed between the parties to such arbitration, the Arbitral Tribunal shall be composed of a sole arbitrator, the seat of arbitration shall be Stockholm and the language to be used in the arbitral proceedings shall be English.

17.4 The arbitral proceedings and all information and documentation related thereto shall be confidential, unless a disclosure is required under any applicable law, relevant stock exchange regulations or order of court, other tribunal or competition authority or as otherwise agreed between the Company and the Holder in writing.

APPENDIX 1 (a)

TO TERMS AND CONDITIONS GOVERNING EMPLOYEE RESTRICTED STOCK UNITS 2021/2026 IN SPOTIFY TECHNOLOGY S.A., TERMS AND CONDITIONS GOVERNING EMPLOYEE STOCK OPTIONS 2021/2026 IN SPOTIFY TECHNOLOGY S.A. AND TERMS AND CONDITIONS GOVERNING EMPLOYEE RETENTION COMPENSATION PROGRAM 2021/2026 IN SPOTIFY TECHNOLOGY S.A.

This Appendix 1(a) to the Terms and Conditions Governing Employee Restricted Stock Units 2021/2026 in Spotify Technology S.A. (the "**RSU Plan**"), Terms and Conditions Governing Employee Stock Options 2021/2026 in Spotify Technology S.A. (the "**ESOP**") and Terms and Conditions Governing Employee Retention Compensation Program 2021/2026 in Spotify Technology S.A. (the "**Retention Program**") (together, the "**Rules**") shall apply only to [NAME][1].

[1] Include Holder name

Capitalized terms contained herein shall have the same meanings given to them in the applicable Rules, unless otherwise provided by Appendix 1(a). Further, any reference to "Holder" in clauses 1 and 2 below shall be read as "Employee" in respect of the Retention Program.

The Rules and this Appendix 1(a) shall be read together. In any case of an irreconcilable contradiction (as determined by the Board) between the provisions of this Appendix 1(a) and the Rules, the provisions of the Rules shall govern unless expressly stated otherwise in this Appendix 1(a).

This Appendix 1(a) is effective as of the Implementation Date.

1. VESTING

1.1 Each of the Rules shall be amended such that, with respect to [NAME], clause 5.3.1 of each of the Rules shall instead have the following wording:

"Notwithstanding anything set forth in these terms and conditions to the contrary, if (i) the employer terminates the employment of the Holder with the Group for any other reason than for Cause (as defined below); or (ii) the Holder resigns due to the employer's material breach of the Holder's employment contract, then (x) such number or portion of the Holder's unvested awards granted hereunder (each, an "**Award**") shall fully and non-contingently vest as of the date of termination of employment as would have vested had termination of employment occurred six months after the actual date of termination of employment; and (y) any remaining unvested Awards shall immediately lapse. A termination of employment described in clause 7.1.5 or 7.1.9 of the RSU Plan, 9.1.6 or 9.1.7 of the ESOP or 6.1.4 or 6.1.5 of the Retention Plan will not receive acceleration under this paragraph, and will instead be treated in accordance with such applicable clause.

If Holder's employment terminates for any reason other than the specific exceptions specified in the previous paragraph, then all unvested Awards shall cease vesting as of the date of termination of employment and shall immediately lapse (in the case of the Retention Compensation, at the time set out in the table below)."

2. CHANGE IN CONTROL

2.1 The Rules shall be amended such that, with respect to [NAME], a new clause 7.1.9 of the RSU Plan, a new clause 9.1.7 of the ESOP and a new clause 6.1.5 of the Retention Plan shall be added and shall have the following wording:

"Notwithstanding anything set forth herein to the contrary, if there is a Change in Control and, in connection with or within a period of six months following the closing of the Change in Control, (a) the Holder is required to perform duties that are materially inconsistent with those normally performed by a [TITLE][2] or is not [TITLE] of the entity resulting from the Change in Control, and the Holder elects to resign as a result of such requirement, or (b) the Holder otherwise experiences a constructive termination, and if any Awards are subject to continued vesting after the Change in Control, then all of the Holder's unvested Awards shall fully vest as of the date of his or her termination of employment."

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[2] To include Holder's title.

Exhibit 4.5

FIRST AMENDMENT TO
SPOTIFY TECHNOLOGY S.A.
TERMS AND CONDITIONS GOVERNING EMPLOYEE STOCK OPTIONS 2020/2025
TERMS AND CONDITIONS GOVERNING EMPLOYEE RESTRICTED STOCK UNITS 2020/2025
TERMS AND CONDITIONS GOVERNING EMPLOYEE RETENTION COMPENSATION PROGRAM 2020/2025

THIS FIRST AMENDMENT (this "***Amendment***") to the Terms and Conditions Governing Employee Stock Options 2020/2025 (the "***ESOP***"), the Terms and Conditions Governing Employee Restricted Stock Units 2020/2025 (the "***RSU Plan***") and the Terms and Conditions Governing Employee Retention Compensation Program 2020/2025 (the "***Cash Plan***", and collectively with the ESOP and the RSU Plan, the "***Employee Incentive Plans***") is made and adopted by the Board of Directors (the "***Board***") of Spotify Technology S.A., a Luxembourg *société anonyme* (the "***Company***").

RECITALS

WHEREAS, the Company maintains the Employee Incentive Plans;

WHEREAS, pursuant to Section 15.2 of the ESOP, Section 13.2 of the RSU Plan and Section 12.3 of the Cash Plan, the Board has the authority to amend the Employee Incentive Plans from time to time; and

WHEREAS, the Board believes it is necessary for practical reasons to amend the Employee Incentive Plans as set forth herein.

NOW, THEREFORE, BE IT RESOLVED, that the Employee Incentive Plans are hereby amended as follows:

AMENDMENT

1. Section 4.2 of the ESOP is hereby deleted and replaced in its entirety with the following:

   Employee Stock Options may be granted to Holders during the period as from and including 1 January 2020 up to and including 31 March 2021. The determination of the employees who will be granted Employee Stock Options, and the date or dates of grant of Employee Stock Options during such period (each, a "**Date of Grant**"), shall be determined by the Board in its sole discretion.

2. Section 4.2 of the RSU Plan is hereby deleted and replaced in its entirety with the following:

   Restricted Stock Units may be granted to Holders during the period as from and including 1 January 2020 up to and including 31 March 2021. The determination of the employees who will be granted Restricted Stock Units, and the date or dates of grant of Restricted Stock Units during such period (each, a "**Date of Grant**"), shall be determined by the Board in its sole discretion.

3. Section 4.2 of the Cash Plan is hereby deleted and replaced in its entirety with the following:

   Participation in the Retention Compensation Program may be granted to Employees during the period as from and including 1 January 2020 up to and including 31 March 2021. The determination of the employees who will be granted Retention Compensation, and the date or dates of grants of Retention Compensation Program participation during such period (each, a "**Date of Grant**") shall be determined by the Board in its sole discretion.

4. This Amendment shall be and is hereby, in applicable part, incorporated into and forms a part of the ESOP, RSU Plan and Cash Plan.

5. Except as expressly provided herein, all terms and conditions of the ESOP, RSU Plan and Cash Plan shall remain in full force and effect.

Exhibit 4.14

TERMS AND CONDITIONS GOVERNING EMPLOYEE RESTRICTED STOCK UNITS 2021/2026 IN SPOTIFY TECHNOLOGY S.A.

1. RESTRICTED STOCK UNIT ISSUER AND HOLDER

1.1 Spotify Technology S.A., a Luxembourg *société anonyme*, with registered address at 42-44, avenue de la Gare, L-1610 Luxembourg, registered with the Luxembourg Trade and Companies' Register under number B 123.052 (the "**Company**").

1.2 Employee of the Company or of any affiliate, subsidiary or other company controlled by the Company (collectively, the "**Group,**" each individually, a "**Group Company**") who has received an individual notice of grant (the "**Holder**").

2. BACKGROUND

2.1 The Company's board of directors (the "**Board**") considers the existence of efficient share-related incentive programs for employees of the Group to be of material importance for the development of the Group. By connecting employees' economic interests to the Group's results and value trend, a long-term increase in value is promoted. Accordingly, the interests of participating employees and shareholders will coincide.

2.2 The foregoing notwithstanding, this restricted stock unit program (the "**Restricted Stock Unit Program**") shall not form part of the Holders' overall compensation and benefits under their contracts of employment with a Group Company, and if applicable, for the avoidance of doubt, shall not entitle any Holder to any pension or other similar benefits. In addition, the existence of a contract of employment between a Holder and a Group Company shall not give the Holder any right or expectation to be granted Restricted Stock Units at any time under the Restricted Stock Unit Program or otherwise. Moreover, the granting of a Restricted Stock Unit shall not give the Holder any right or expectation to be granted additional Restricted Stock Units at any time under the Restricted Stock Unit Program or otherwise.

3. RESTRICTED STOCK UNIT; SHARES AVAILABLE

3.1 Subject to the terms and conditions set out herein, the Holder is entitled to delivery of one share in the Company (a "**Share**") per restricted stock unit (a "**Restricted Stock Unit**"). Subject to the provisions of clauses 7.1.6 and 7.2.3, the maximum aggregate number of Shares that may be subject to Restricted Stock Units under the Pool is 31,850,000 Shares.

3.2 "**Pool**" means the Shares granted under the Restricted Stock Unit Program and the Terms and Conditions Governing Employee Stock Options 2021/2026 in Spotify Technology S.A. (each, a "**Pool Plan**").

Shares available for grant or sale under the Pool will be reduced by the net Shares granted under any of the Pool Plans.

4. IMPLEMENTATION AND GRANT

4.1 The Restricted Stock Unit Program shall be effective as per April 1, 2021 (the "**Implementation Date**").

4.2 Restricted Stock Units may be granted to the Holder during the period as from and including April 1, 2021 up to and including March 31, 2026. The determination of the employees who will be granted Restricted Stock Units, and the date or dates of grants of Restricted Stock Units during such period (each, a "**Date of Grant**"), shall be determined by the Board in its sole discretion.

5. EMPLOYEE VESTING

5.1 **Employee vesting general**

5.1.1 Subject to continued employment with the Group, vesting of the Restricted Stock Units shall occur on the same date in each relevant calendar month as the Date of Grant in accordance with the following:

(a) initially, 3/48 shall vest in the third calendar month following the Date of Grant; and

(b) thereafter, 1/48 shall vest each calendar month.

Notwithstanding the foregoing, if there is no such date specified in (a) or (b) in the relevant calendar month, vesting shall occur on the last day of such month. The vesting schedule set out in this clause 5.1.1 may be amended pursuant to clause 5.1.2, 5.2 and 5.3.

5.1.2 Notwithstanding the aforesaid, the Board shall be entitled, in its sole discretion, to grant Restricted Stock Units that are subject to a different vesting schedule.

5.2 **Employee leave of absence**

5.2.1 If the Holder goes on leave of absence, such Holder's Restricted Stock Units will not vest during the leave of absence, except as set forth below in this clause 5.2. The Restricted Stock Units that do not vest during the leave of absence as a consequence of the Holder's leave of absence shall lapse immediately, if not otherwise determined by the Board.

5.2.2 If the Holder is on leave of absence due to parental leave (including maternity or paternity leave), sick leave, vacation leave or other paid time off or legally protected leave, such Holder's Restricted Stock Units shall continue to vest on the original vesting schedule during the leave of absence. The same shall apply for any other leave of absence during which vesting on the original schedule must continue under applicable law.

5.2.3 If the Holder is on leave of absence due to any other reason (e.g. studying) than as set out in clause 5.2.2, or if the Holder otherwise reduces his/her contractual working hours for the employer after the Date of Grant of the Holder's Restricted Stock Units, but the Holder still works part-time for the employer, such Holder's Restricted Stock Units shall vest pro rata in relation to a full-time job. If the Holder's contractual working hours prior to leave of absence or reduction of contractual working hours did not amount to a full-time job, such Holder's Restricted Stock Units shall vest pro rata in relation to the contractual working hours prior to such leave of absence or reduction of contractual working hours. The same shall apply for any other leave of absence during which pro rata vesting must continue under applicable law. For the purpose of this clause 5.2.3, a full-time job shall correspond to the number of working hours per week set out in the Holder's employment agreement as the standard for a full-time job.

5.3 **Employee termination of employment**

5.3.1 If (i) the Holder resigns for any reason, including by reason of Holder retiring pursuant to the terms of his/her employment contract or regulatory requirements or (ii) the employer terminates the employment of the Holder with the Group for any reason, all unvested Restricted Stock Units shall cease vesting as of the date of termination of employment and shall immediately lapse.

5.3.2 If (i) the Holder resigns, or (ii) the employer terminates the employment of the Holder with the Group, or (iii) the Holder is exempt from work in connection with an anticipated termination of employment, or (iv) the Holder retires pursuant to the terms of his/her employment contract or regulatory requirements, termination of employment for purposes of the Restricted Stock Units shall be deemed to occur immediately after the end of the last day of employment, taking into account

any notice period (but, for the avoidance of doubt, not including any further period over which any severance payment or consideration for non-compete restriction or similar is paid out). Notwithstanding the foregoing, the Board shall be entitled, in its sole discretion, to resolve that termination of employment shall be deemed to occur at a later point in time.

5.3.3 If a Holder changes the entity for which he or she is employed, but remains employed by the Group, such change will not be deemed a termination of employment for purposes of his/her Restricted Stock Units, provided that there is no other interruption or termination of the Holder's employment, unless the Board, in its sole discretion, determines that the entity to which the Holder transfers is not a qualified affiliate of the Group. If a Holder changes the capacity in which he/she provides service to the Group from an employee to an independent contractor or consultant, such change will be deemed a termination of employment for purposes of his/her Restricted Stock Units.

5.3.4 If the Holder, when he/she commences his/her employment with the Group, is subject to a probationary or trial employment and, at the end of such probationary or trial employment, the employment with the Group is terminated (for whatever reason), all Restricted Stock Units shall lapse and be forfeited on the date of termination of employment.

6. SETTLEMENT

6.1 Settlement will occur through an electronic platform and with no paper documentation to be executed by the Holder. To this effect, the Holder will receive an individual username and an individual password from the Company, giving her/him access to a personal account on the electronic platform. Once the Holder will have logged-in and accepted the terms and conditions of the Restricted Stock Unit Program applicable to her/him, she/he will be able to carry out any actions required to settle (i) any Withholding Obligation (as defined in clause 11.1 below) and (ii) Holder's Tax Liability (as defined in clause 11.2 below), in each case as and to the extent the Board requires in its sole discretion (any such Withholding Obligations or Holder's Tax Liability that the Board requires to be so settled, the "**Holder's Payment Obligations**").

6.2 Without limiting the foregoing, unless the Board determines otherwise, Holder's Payment Obligations will be satisfied by a "net settlement" arrangement pursuant to which the Company will reduce the number of Shares issuable upon vesting or settlement by the minimum number of Shares (rounded up to the nearest whole Share, without any consideration to the Holder for such rounding) as are sufficient to satisfy Holder's Payment Obligations ("**Net Settlement**").

6.3 To the extent the Board determines that Net Settlement will not be used to satisfy a Holder's Payment Obligations, the Board may require the Holder to satisfy such Holder's Payment Obligations by any other method or combination of methods determined in the Board's sole discretion, including, without limitation, by:

i. placing a market sell order with a broker acceptable to the Board covering the minimum number of Shares (rounded up to the nearest whole Share) then being distributed in respect of vested Restricted Stock Units as are sufficient to satisfy Holder's Payment Obligations. The net proceeds of such sale shall be delivered to the Company or its applicable Subsidiary upon the settlement of such sale, and any excess proceeds resulting from rounding up to the nearest whole Share shall be deposited into the Holder's account on the electronic platform; or

ii. a "cash settlement" arrangement pursuant to which the Holder's Payment Obligations shall be satisfied with money that shall have been paid by the Holder to the Holder's personal account on the electronic platform.

6.4 As soon as reasonably practicable (but no later than 30 days) following the completion of all actions required by the Holder to settle the Holder's Payment Obligations with respect to any Restricted Stock Units that become vested (or if no such actions are required, within 30 days following the

vesting date), the Company shall issue the number of Shares subject to the Restricted Stock Units that become vested in the name of the Holder (or if deceased, the Holder's legal representative) (less any Shares reduced or sold pursuant to this clause 6). The Shares will be issued as fully paid and nonassessable Shares and may be authorized but previously unissued shares, treasury shares or shares purchased in the open market.

6.5 If the Holder does not complete any required actions to settle the Holder's Payment Obligations with respect to any Restricted Stock Units that vested within 30 days following the applicable vesting date, then such Restricted Stock Units will be cancelled with respect to those Shares that would otherwise have become issuable therefor, unless otherwise decided by the Board.

7. AMENDMENT OF THE RESTRICTED STOCK UNITS; ADJUSTMENT

7.1 **Change in Control**

7.1.1 With respect to any Restricted Stock Units that remain unvested as of the date immediately following the date of the Change in Control, the Board may, in its sole discretion, decide to (i) have these terms and conditions continue following the effective date of the Change in Control in accordance with the provisions of clause 7.1.2, (ii) allow a grant of substantially equivalent rights (i.e., among other things, that preserves the intrinsic value and vesting schedule of the Restricted Stock Units) with respect to securities in a new company to the rights the Holder had in the Company immediately before the Change in Control in accordance with the provisions of clause 7.1.3 or (iii) allow an amendment of the terms and conditions to the effect that, following the Change in Control, a new company assumes the Company's rights and obligations hereunder in accordance with the provisions of clause 7.1.4.

7.1.2 If the Board decides to have these terms and conditions continue following the effective date of the Change in Control, the vesting and settlement schedule as set forth in clauses 5 and 6 shall remain unaffected by the Change in Control.

7.1.3 If the Board decides to allow a grant of substantially equivalent rights with respect to securities in a new company to the rights the Holder had in the Company immediately before the Change in Control, all unvested Restricted Stock Units shall lapse and be cancelled as of the closing and, subject to the grant of such substantially equivalent rights, the Holder shall have no further rights pursuant to the Restricted Stock Units after the closing.

7.1.4 If the Board decides to allow an amendment of the terms and conditions to the effect that, following the Change in Control, a new company assumes the Company's rights and obligations hereunder, the Holder's vested and unsettled Restricted Stock Units and unvested Restricted Stock Units shall relate to shares in such new company.

7.1.5 If the Group, or any successor thereto, in connection with or within a period of 6 months following the closing of a Change in Control, terminates the employment of the Holder, other than for (i) the Holder's willful failure to perform, or serious negligence or misconduct in the performance of his/her duties and responsibilities as an employee; or (ii) any breach by the Holder of any material provision of these terms and conditions and/or any breach of any material provision of his/her employment agreement; or (iii) the Holder's violation of any material policy of any Group Company or any other material external (e.g., professional) standards or codes of conduct to which the Holder may be subject; or (iv) the Holder's breach of any fiduciary duty or duty of loyalty owed to any Group Company or the Holder's commission of fraud, embezzlement, theft or other act of dishonesty with respect to any Group Company; or (v) the Holder's commission of, or plea of guilty or *nolo contendere* to, a felony or other crime involving moral turpitude or affecting any Group Company; or (vi) any act or failure to act by the Holder that the Holder knows or reasonably should know is likely to be materially injurious to the business or reputation of the Group or any Group Company; or (vii) any other circumstances constituting just cause for dismissal due to personal grounds (Sw. saklig grund för uppsägning på grund av personliga skäl) under Swedish law or

similar circumstances under other applicable law (each of (i) through (vii) a "**Cause**"), and if any Restricted Stock Units are subject to continued vesting after the Change in Control in accordance with this clause 7.1, all of the Holder's unvested Restricted Stock Units shall vest as of the date of his or her termination of employment.

7.1.6 If any share split, reverse share split, share dividend, recapitalization, combination, reclassification or other distribution of the Company's Shares without the receipt of consideration by the Company occurs, the Board will adjust the number and class of Shares that may be delivered under the number and class of Shares covered by each outstanding Restricted Stock Unit and in a manner that complies with all applicable laws to prevent diminution or enlargement of the benefits or potential benefits intended to be made available with respect to any grant of any Restricted Stock Unit.

7.1.7 "**Change in Control**" shall mean and include each of the following:

*(i) a transaction or series of transactions (other than an offering of Shares to the general public through a registration statement filed with the Securities and Exchange Commission) whereby any "person" or related "group" of "persons" (as such terms are used in Sections 13(d) and 14(d)(2) of the Securities Exchange Act of 1934, as amended from time to time (the "**Exchange Act**")) directly or indirectly acquires beneficial ownership (within the meaning of Rules 13d-3 and 13d-5 under the Exchange Act) of securities of the Company possessing more than 50% of the total combined voting power of the Company's securities outstanding immediately after such acquisition; provided, however, that the following acquisitions shall not constitute a Change in Control: (w) any acquisition by the Company; (x) any acquisition by an employee benefit plan maintained by the Company, (y) any acquisition which complies with clauses 7.1.7 (iii)(I)-(III); or (z) in respect of an Restricted Stock Unit held by a particular Holder, any acquisition by the Holder or any group of persons including the Holder (or any entity controlled by the Holder or any group of persons including the Holder);*

(ii) the Incumbent Directors cease for any reason to constitute a majority of the Board;

*(iii) the consummation by the Company (whether directly involving the Company or indirectly involving the Company through one or more intermediaries) of (x) a merger, consolidation, reorganization, or business combination, (y) a sale or other disposition of all or substantially all of the Company's assets in any single transaction or series of related transactions or (z) the acquisition of assets or stock of another entity, in each case other than a transaction: (I) which results in the Company's voting securities outstanding immediately before the transaction continuing to represent (either by remaining outstanding or by being converted into voting securities of the Company or the person that, as a result of the transaction, controls, directly or indirectly, the Company or owns, directly or indirectly, all or substantially all of the Company's assets or otherwise succeeds to the business of the Company (the Company or such person, the "**Successor Entity**")) directly or indirectly, at least a majority of the combined voting power of the Successor Entity's outstanding voting securities immediately after the transaction, and (II) after which no person or group beneficially owns voting securities representing 50% or more of the combined voting power of the Successor Entity; provided, however, that no person or group shall be treated for purposes of this clause (II) as beneficially owning 50% or more of the combined voting power of the Successor Entity solely as a result of the voting power held in the Company prior to the consummation of the transaction; and (III) after which at least a majority of the members of the board of directors (or the analogous governing body) of the Successor Entity were Board members at the time of the Board's approval of the execution of the initial agreement providing for such transaction; or (iv) the date which is 10 days on which banks are open for business generally (and not for internet banking only) in Luxembourg and the U.S. prior to the completion of a liquidation or dissolution of the Company.*

7.1.8 "**Incumbent Directors**" shall mean for any period of 12 consecutive months, individuals who, at the beginning of such period, constitute the Board together with any new director(s) (other than a director designated by a person who shall have entered into an agreement with the Company to

effect a transaction described in clause 7.1.7(i) or 7.1.7(iii)) whose election or nomination for election to the Board was approved by a vote of at least a majority (either by a specific vote or by approval of the proxy statement of the Company in which such person is named as a nominee for director without objection to such nomination) of the directors then still in office who either were directors at the beginning of the 12-month period or whose election or nomination for election was previously so approved. No individual initially elected or nominated as a director of the Company as a result of an actual or threatened election contest with respect to directors or as a result of any other actual or threatened solicitation of proxies by or on behalf of any person other than the Board shall be an Incumbent Director.

7.2 **Share for share exchange etc.**

7.2.1 If the Company's shareholders perform a share for share exchange for the purpose of creating a new holding company to the Company, or if a new company otherwise replaces the Company as the holding company in the Group, and such transaction is not a Change in Control, the Board shall use reasonable efforts to either: (a) ensure that the Holder receives substantially equivalent rights with respect to securities in the new holding company as the Holder had in the Company immediately before such transaction, provided that the Holder in writing waives any rights under the Restricted Stock Units, which shall lapse and be cancelled as a consequence thereof; or (b) amend these terms and conditions to the effect that the new holding company assumes the Company's rights and obligations hereunder and that the Holder's vested and unsettled Restricted Stock Units and unvested Restricted Stock Units shall relate to shares in such new company.

7.2.2 In the event of a transaction as described in clause 7.2.1, the Holder shall always be obliged upon the Board's request to, in case of (a) in clause 7.2.1, waive any rights under the Restricted Stock Units provided that the Holder receives substantially equivalent rights in the new holding company as the Holder had in the Company immediately before such transaction or, in case of (b) in clause 7.2.1, approve any such amendment to these terms and conditions. No waiver shall be requested or required, and the Company may act unilaterally in accordance with this clause 7.2, provided that the Restricted Stock Units preserve the material terms and conditions of the underlying rights, including the vesting schedule and the intrinsic value of the Restricted Stock Unit as of immediately prior to such transaction.

7.2.3 If the Company effects a change of the classes of outstanding Company securities, the Board shall, appropriately and proportionately adjust the class of securities subject to the Restricted Stock Units. The Board will make such adjustments, and its determination will be final, binding and conclusive.

8. CANCELLATION OF RESTRICTED STOCK UNITS IN CASE OF A MATERIAL BREACH

8.1 If the Holder commits a material breach of any of its obligations under these terms and conditions and the breach has not been rectified within 15 calendar days from the date the Holder receives a written demand for rectification, the Company shall be entitled to cancel the Holder's Restricted Stock Units, which as a consequence thereof shall lapse.

8.2 A material breach for purposes of clause 8 and 9 shall mean a breach by the Holder of the provisions in clauses 6.3, 7.2, 10, 11, 13.1 or 13.5 or any other breach by the Holder of these terms and conditions that is reasonably likely to have a material adverse effect on the Company.

9. LIQUIDATED DAMAGES IN CASE OF A MATERIAL BREACH

9.1 If the Holder commits a material breach in accordance with clause 8.2 and the breach has not been rectified within 15 calendar days from the date the Holder receives a written demand for rectification, the Holder shall upon written request by the Company pay liquidated damages in an amount corresponding to 50 percent of the aggregate then-current fair market value of the Shares represented by or delivered upon settlement of the Restricted Stock Units. The Company shall not

be entitled to demand liquidated damages if the Company has cancelled the Holder's Restricted Stock Units pursuant to clause 8.1.

9.2 If the Holder commits a material breach of any of its obligations under these terms and conditions, the Company is entitled, in addition to any liquidated damages in accordance with the provisions of clause 9.1, to claim damages in an amount corresponding to the difference between the actual damage suffered and the liquidated damages (if any), if such damage exceeds the amount of the liquidated damages (if any).

9.3 The payment by the Holder of any liquidated damages and regular damages shall not affect the Company's right to pursue other remedies that the Company may have against the Holder as a result of a breach.

10. APPOINTMENT OF AGENT ETC.

10.1 The Holder hereby irrevocably authorizes the Board, with full power of substitution, to endorse such documents on behalf of the Holder and to take any other action reasonably necessary to effect any of the Holder's obligations under these terms and conditions, including but not limited to, execution of a transfer of Shares owned by the Holder. The Board shall hold any payment received for the benefit of the Holder under this clause 10.1 on behalf of the Holder and separated from any other funds. A withdrawal of the authorization as provided for in this clause 10.1 constitutes a material breach of these terms and conditions for purposes of clause 8 and 9.

10.2 The Holder hereby undertakes to sign, execute and deliver such documents (including without limitation any subscription form), and to take any other actions, as reasonably required by the Board in order to ensure compliance with or observation of the Holder's obligations under these terms and conditions.

11. PAYMENT OF CERTAIN TAXES

11.1 The Group will perform withholding of taxes in relation to the Restricted Stock Units and the Shares delivered upon settlement if and to the extent required by law or decisions by governmental authorities or if the Board in its reasonable opinion considers it appropriate for the Group to perform such withholding of taxes (any such withholding tax obligation of the Holder, "**Withholding Obligation**"). For the avoidance of doubt, this clause 11.1 shall not affect the Holder's liabilities and undertakings pursuant to the remainder of this clause 11.

11.2 The Holder is liable for and undertakes to pay any taxes (including but not limited to income taxes, capital taxes, employment taxes, self-employment taxes, social security contributions as well as any tax penalties thereon) for which he/she may be liable in relation to the Restricted Stock Units and any Shares issued at settlement ("**Holder's Tax Liability**"). For the avoidance of doubt, any Withholding Obligation (whether preliminary or deducted at source) on employment income, dividends and capital gains will always be considered as Holder's Tax Liability.

11.3 The calculation of any Withholding Obligation or Holder's Tax Liability, as applicable, will be subject to applicable rules and regulations and based on the applicable tax rates, as determined by the Board in its sole discretion in connection with determining the Holder's Payment Obligations.

11.4 The Group assumes no responsibility for any Holder's Tax Liability. The Holder represents that the Holder is not relying on the Group for any tax advice and explicitly agrees not to demand any compensation from the Group to cover any Holder's Tax Liability.

12. DATA PROTECTION

12.1 For the purposes of implementing, managing and administering the Restricted Stock Unit Program, and for the Holder to participate in the Restricted Stock Unit Program, it is necessary for the

Company, acting as data controller, and other companies in the Group to process the Holder's personal data. For more information regarding the processing of the Holder's personal data, see the Company's separate privacy notice which can be found in the ESOP Portal, that can be reached through the Internal Services webpage.

13. MISCELLANEOUS

13.1 The Restricted Stock Units may not be transferred, otherwise disposed, pledged, borrowed against or used as any form of security.

13.2 The Company shall be entitled to amend these terms and conditions to the extent required by legislation, regulations, court decisions, decisions by public authorities or agreements, or if such amendments, in the reasonable judgment of the Company, are otherwise necessary for practical reasons, and provided in all of the aforementioned cases that the Holder's rights are in no material respects adversely affected. If the Holder's rights would be materially adversely affected, the Holder's written consent shall be necessary for such amendment.

13.3 Nothing in these terms and conditions or in any right or Restricted Stock Unit granted under these terms and conditions shall confer upon the Holder the right to continue in employment or service for any period of specific duration or interfere with or otherwise restrict in any way the rights of the Group or of the Holder, which rights are hereby expressly reserved by each, to terminate the Holder's employment or service at any time.

13.4 The Holder has no right to compensation or damages for any loss in respect of the Restricted Stock Unit where such loss arises (or is claimed to arise), in whole or in part, from the termination of the Holder's employment or service; or notice to terminate employment or service given by or to the Holder. However, this exclusion of liability shall not apply to termination of employment or service, or the giving of notice, where a competent tribunal or court, from which there can be no appeal (or which the relevant employing company has decided not to appeal), has found that the cessation of the Holder's employment or service amounted to unfair or constructive dismissal of the Holder.

13.5 The Holder undertakes not to use or disclose the contents of these terms and conditions, or any financial information, trade secrets, customer lists or other information which it may from time to time receive or obtain (orally or in writing or in disc or electronic form) as a result of entering into or performing its obligations pursuant to these terms and conditions or otherwise, relating to the Group unless: (i) required to do so by law or pursuant to any order of court or other competent authority or tribunal; or (ii) such disclosure has been consented to by the Company, provided, however, that the Holder may disclose the terms and conditions of his or her Restricted Stock Units to the Holder's spouse, personal attorney and/or tax preparer. If a Holder becomes required, in circumstances contemplated by (i) to disclose any information, the disclosing Holder shall use its best efforts to consult with the Company prior to any such disclosure.

13.6 Shares will not be issued or delivered under this Restricted Stock Unit Program unless the issuance and delivery of such Shares comply with (or are exempt from) all applicable requirements of law, including (without limitation) the Securities Act of 1933, as amended, the rules and regulations promulgated thereunder, state securities laws and regulations, and the regulations of any stock exchange or other securities market on which the Company's securities may then be traded. In addition to the terms and conditions provided herein, the Board may require that a Holder make such reasonable covenants, agreements and representations as the Board, in its sole discretion, deems advisable in order to comply with applicable law. The Board shall have the right to require any Holder to comply with any timing or other restrictions with respect to the settlement, distribution or exercise of any Restricted Stock Unit, including a window-period limitation, as may be imposed in the sole discretion of the Board.

14. TERM AND TERMINATION

These terms and conditions shall enter into force on the Implementation Date and remain in force until close of business in Sweden on March 31, 2031. The parties shall, however, after such date continue to be bound by the provisions set out in clause 13.5 and 15.

15. GOVERNING LAW AND JURISDICTION

15.1 These terms and conditions shall be governed by and construed in accordance with the substantive law of Sweden (excluding its rules on conflict of laws).

15.2 The Company and the Holder undertake to use their best efforts to resolve any disagreements or disputes regarding these terms and conditions between them or any two or more of them through discussions and mutual agreement.

15.3 Any dispute, controversy or claim arising out of or in connection with these terms and conditions, or the breach, termination or invalidity thereof, shall be finally settled by arbitration in accordance with the Arbitration Rules of the Arbitration Institute of the Stockholm Chamber of Commerce. Unless otherwise agreed between the parties to such arbitration, the Arbitral Tribunal shall be composed of a sole arbitrator, the seat of arbitration shall be Stockholm and the language to be used in the arbitral proceedings shall be English.

15.4 The arbitral proceedings and all information and documentation related thereto shall be confidential, unless a disclosure is required under any applicable law, relevant stock exchange regulations or order of court, other tribunal or competition authority or as otherwise agreed between the Company and the Holder in writing.

APPENDIX 1 (a)

TO TERMS AND CONDITIONS GOVERNING EMPLOYEE RESTRICTED STOCK UNITS 2021/2026 IN SPOTIFY TECHNOLOGY S.A., TERMS AND CONDITIONS GOVERNING EMPLOYEE STOCK OPTIONS 2021/2026 IN SPOTIFY TECHNOLOGY S.A. AND TERMS AND CONDITIONS GOVERNING EMPLOYEE RETENTION COMPENSATION PROGRAM 2021/2026 IN SPOTIFY TECHNOLOGY S.A.

This Appendix 1(a) to the Terms and Conditions Governing Employee Restricted

Stock Units 2021/2026 in Spotify Technology S.A. (the "RSU Plan"), Terms and Conditions Governing Employee Stock Options 2021/2026 in Spotify Technology S.A. (the "ESOP") and Terms and Conditions Governing Employee Retention Compensation Program 2021/2026 in Spotify Technology S.A. (the "Retention Program") (together, the "Rules") shall apply only to [NAME][1].

Capitalized terms contained herein shall have the same meanings given to them in the applicable Rules, unless otherwise provided by Appendix 1(a). Further, any reference to "Holder" in clauses 1 and 2 below shall be read as "Employee" in respect of the Retention Program.

The Rules and this Appendix 1(a) shall be read together. In any case of an irreconcilable contradiction (as determined by the Board) between the provisions of this Appendix 1(a) and the Rules, the provisions of the Rules shall govern unless expressly stated otherwise in this Appendix 1(a).

This Appendix 1(a) is effective as of the Implementation Date.

[1] Include Holder name

APPENDIX 1(a)

1. VESTING

1.1 Each of the Rules shall be amended such that, with respect to [NAME], clause 5.3.1 of each of the Rules shall instead have the following wording:

"Notwithstanding anything set forth in these terms and conditions to the contrary, if (i) the employer terminates the employment of the Holder with the Group for any other reason than for Cause (as defined below); or (ii) the Holder resigns due to the employer's material breach of the Holder's employment contract, then (x) such number or portion of the Holder's unvested awards granted hereunder (each, an "**Award**") shall fully and non-contingently vest as of the date of termination of employment as would have vested had termination of employment occurred six months after the actual date of termination of employment; and (y) any remaining unvested Awards shall immediately lapse. A termination of employment described in clause 7.1.5 or 7.1.9 of the RSU Plan, 9.1.6 or 9.1.7 of the ESOP or 6.1.4 or 6.1.5 of the Retention Plan will not receive acceleration under this paragraph, and will instead be treated in accordance with such applicable clause.

If Holder's employment terminates for any reason other than the specific exceptions specified in the previous paragraph, then all unvested Awards shall cease vesting as of the date of termination of employment and shall immediately lapse (in the case of the Retention Compensation, at the time set out in the table below)."

2. CHANGE IN CONTROL

2.1 The Rules shall be amended such that, with respect to [NAME], a new clause 7.1.9 of the RSU Plan, a new clause 9.1.7 of the ESOP and a new clause 6.1.5 of the Retention Plan shall be added and shall have the following wording:

"Notwithstanding anything set forth herein to the contrary, if there is a Change in Control and, in connection with or within a period of six months following the closing of the Change in Control, (a) the Holder is required to perform duties that are materially inconsistent with those normally performed by a [TITLE][2] or is not [TITLE] of the entity resulting from the Change in Control, and the Holder elects to resign as a result of such requirement, or (b) the Holder otherwise experiences a constructive termination, and if any Awards are subject to continued vesting after the Change in Control, then all of the Holder's unvested Awards shall fully vest as of the date of his or her termination of employment."

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[2] To include Holder's title.

Exhibit 4.31

TERMS AND CONDITIONS GOVERNING CONSULTANT STOCK OPTIONS 2021/2026 IN SPOTIFY TECHNOLOGY S.A.

1. STOCK OPTION ISSUER AND HOLDER

1.1 Spotify Technology S.A., a Luxembourg *société anonyme*, with registered address at 42-44, avenue de la Gare, L-1610 Luxembourg, registered with the Luxembourg Trade and Companies' Register under number B 123.052 (the "**Company**").

1.2 Consultant to the Company or of any affiliate, subsidiary or other company controlled by the Company (collectively, the "**Group**", each individually, a "**Group Company**") who has received an individual notice of grant (the "**Holder**") (the "**Notice of Grant**").

1.3 "**Consultant**" shall mean (a) any natural person engaged to provide consulting services for the Group or (b) any entity of which any such natural person is the sole owner, in each case who qualifies as a consultant or advisor under the applicable rules of the Securities and Exchange Commission for registration of shares on a Form S-8 Registration Statement.

2. BACKGROUND

2.1 The Company's board of directors (the "**Board**") considers the existence of efficient share-related incentive programs for Consultants to be of material importance for the development of the Group. By connecting Consultants' economic interests to the Group's results and value trend, a long-term increase in value is promoted. Accordingly, the interests of participating Consultants and shareholders will coincide.

2.2 The existence of a contract of service between a Consultant and a Group Company shall not give the Consultant any right or expectation to be granted Stock Options at any time under this stock option program (the "**Stock Option Program**") or otherwise. Moreover, the granting of a Stock Option shall not give the Holder any right or expectation to be granted additional Stock Options at any time under the Stock Option Program or otherwise.

3. OPTION; SHARES AVAILABLE

3.1 Subject to the terms and conditions set out herein, the Holder is entitled to delivery of one share in the Company (a "**Share**") per stock option (a "**Stock Option**") at the exercise price communicated to the Holder (the "**Exercise Price**"). The Exercise Price may be re-calculated under certain circumstances pursuant to clause 8. Subject to the provisions of clauses 8 and 9.3.3, the maximum aggregate number of Shares that may be subject to Stock Options under the Pool is 50,000 Shares.

3.2 "**Pool**" means the Shares granted under the Stock Option Program and the Terms and Conditions governing Consultant Restricted Stock Units 2021/2026 in Spotify Technology S.A. (each, a "**Pool Plan**").

Shares available for grant or sale under the Pool will be reduced by the net Shares granted under any of the Pool Plans.

4. IMPLEMENTATION AND GRANT

4.1 The Stock Option Program shall be effective as per 1 April 2021 (the "**Implementation Date**").

4.2 Stock Options may be granted to Holders during the period as from and including 1 April 2021 up to and including 31 March 2022. The determination of the Consultants who will be granted Stock Options, and the date or dates of grants of Stock Options during such period (each, a "**Date of Grant**"), shall be determined by the Board in its sole discretion.

5. VESTING

5.1 **General**

Vesting of the granted Stock Options shall occur on the dates set out in the Notice of Grant, subject to the Holder's continued service with the Group. The vesting schedule set out in the Notice of Grant may be amended pursuant to clause 5.2 and 9.

5.2 **Consultant termination of services**

5.2.1 If there is a Termination of Services for any reason, all unvested Stock Options shall cease vesting as of the date of Termination of Services and shall immediately lapse. The new Expiration Date shall be the 90th calendar day following the Termination of Services or such later dates as determined by the Company (but in no event later than the fifth anniversary of the Date of Grant or such date as follows pursuant to clause 9).

5.2.2 "**Services**" means the services the Holder (or, in case of any entity Holder, the services of the sole owner of such entity) provides to a Group Company under a services or consulting agreement.

5.2.3 "**Termination**" means (i) that the Holder is no longer providing Services to any Group Company as a Consultant or (ii) in the case of a Holder that is an entity, the sole owner of such entity on the Date of Grant ceases to be the sole owner of such entity.

5.2.4 If a Holder changes the entity for which he or she provides Services, but continues to provide Services to the Group, such change will not be deemed a Termination of Services for purposes of the Consultant's Stock Options, provided that there is no other interruption or termination of the Holder's Services, unless the Board, in its sole discretion, determines that the entity to which the Holder transfers is not a qualified affiliate of the Group. If a Holder changes the capacity in which the Holder provides service to the Group from a Consultant to an employee, such change will not be deemed a Termination of Services for purposes of his/her Stock Options; provided, however, that the Stock Options will thereafter be subject to the Terms and Conditions governing Employee Stock Options 2021/2026 in the Company, to the extent determined by the Board.

6. EXERCISE

6.1 **General**

6.1.1 The Holder is entitled to exercise his/her rights under the Stock Options to the extent the Stock Options have vested pursuant to these terms and conditions by requesting exercise at any time up to and including the fifth anniversary of the Date of Grant, in the manner set forth below ("**Exercise**"), provided such Stock Options have not previously lapsed.

6.1.2 In the event the Holder has not requested Exercise on or before the fifth anniversary of the Date of Grant (such date, or an earlier date set for the expiration of the term of the Stock Options as provided for in clause 9, the "**Expiration Date**"), all rights under the Stock Options shall lapse.

6.1.3 Exercise may only be requested through an electronic platform where the Holder may (i) place requests on the said electronic platform in order to exercise some or all of her/his vested Stock Options (the "**Exercise Request**") and (ii) carry out any actions required to settle the Holder's Payment Obligations (as defined in clause 7.1).

6.1.4 The Exercise Request placed by the Holder must be placed not later than on the Expiration Date and state the number of Stock Options that the Holder wishes to Exercise. An Exercise Request is binding and irrevocable.

6.1.5 If the Holder's Stock Options at Exercise entitle the Holder to subscribe for a number of Shares which is not an integer, the number of Shares to which the entitlement relates shall be rounded down to the nearest integer.

6.1.6 Exercise may not take place in the event the Company is declared bankrupt. However, Exercise may take place in the event the bankruptcy order is subsequently overturned on appeal.

6.1.7 The Expiration Date and the periods during which Exercise can take place may be amended pursuant to this clause 6, clause 9, or by other express action of the Board as provided for in these terms and conditions.

6.1.8 In the event that the Holder's Termination of Services occurs due to death or physical disability, the new Expiration Date shall be the 194th calendar day following such event or such later dates as determined by the Company (but in no event later than the Expiration Date or such date as follows pursuant to clause 9). The Holder (or, in the event of the Holder's death, the Holder's estate (Sw. *dödsbo*)) shall up to and including the new Expiration Date be entitled to Exercise any Stock Options, which have vested in accordance with these terms and conditions as of such event. Following the new Expiration Date, the Holder (or, in the event of the Holder's death, the Holder's estate) shall have no rights pursuant to the Stock Options and all rights under the Stock Options which have not been subject to Exercise shall lapse. In the event of the Holder's death, the rights and obligations in accordance with these terms and conditions shall be binding upon and inure to the Holder's estate.

7. PAYMENT AND DELIVERY OF SHARES

7.1 Payment of the Exercise Price and, to the extent applicable, any Withholding Obligation (as defined in clause 13.1 below), in each case as and to the extent the Board requires in its sole discretion (Holder's obligation to pay the Exercise Price jointly with any such Withholding Obligation that the Board requires to be so settled, the "**Holder's Payment Obligations"**) shall, unless the Board determines otherwise, be satisfied by a "cash settlement" arrangement pursuant to which the Holder's Payment Obligations shall be satisfied with money that shall have been paid by the Holder to the Holder's personal account on the electronic platform ("**Cash Settlement**").

7.2 To the extent the Board determines that Cash Settlement will not be used to satisfy a Holder's Payment Obligations, the Board may require the Holder to satisfy such Holder's Payment Obligations by any other method or combination of methods determined in the Board's sole discretion, including, without limitation, by:

(i) placing a market sell order with a broker acceptable to the Board covering the minimum number of Shares (rounded up to the nearest whole Share) then being distributed in respect of vested Stock Options as are sufficient to satisfy such Holder's Payment Obligations. The net proceeds of such sale shall be delivered to the Company or its applicable Subsidiary upon the settlement of such sale, and any excess proceeds resulting from rounding up to the nearest whole Share shall be deposited into the Holder's account on the electronic platform; or

(ii) a "net settlement" arrangement pursuant to which the Company will reduce the number of Shares deliverable to the Holder upon vesting or settlement by the minimum number of Shares (rounded up to the nearest whole Share, without any consideration to the Holder for such rounding) as are sufficient to satisfy Holder's Payment Obligations.

7.3 If the Company receives a valid Exercise Request and all actions required by the Holder to settle the Holder's Payment Obligation have been completed, the Company shall deliver Shares to the Holder within 10 days on which banks are open for business generally (and not for internet banking only) in

Luxembourg and the U.S (a "**Business Day**") (less any Shares reduced or sold pursuant to this clause 7).

7.4 As a condition to the exercise of a Stock Option, the Holder shall make such arrangements as the Board may require for the satisfaction of any Holder's Payment Obligations that may arise in relation to the Stock Options.

8. RE-CALCULATION OF EXERCISE PRICE ETC.

The Exercise Price and the number of Shares to which each Stock Option entitles the Holder to subscribe for shall be re-calculated in the event that there are changes in the Company's share capital by way of a bonus issue of shares, share split, reverse share split, or a reduction of the share capital (a "**Re-calculation Event**"), in order not to affect the value of the Stock Options. The re-calculation shall be carried out by the Board in accordance with the following formula:

$$n_4 = n_3 \times \left(\frac{n_1 + n_2}{n_1}\right)$$

where:

n_1 = number of shares issued in the Company prior to the Re-calculation Event
n_2 = number of shares issued/reduced in the Re-calculation Event
n_3 = number of Shares which each Stock Option entitled the Holder to subscribe for immediately prior to the Re-calculation Event
n_4 = number of Shares that each Stock Option gives the right to subscribe for after the Re-calculation Event

Consequently, the Exercise Price for the Stock Option shall be re-calculated in accordance with the following formula:

$$p_2 = p_1 \times \left(\frac{n_1}{n_1 + n_2}\right)$$

where (in addition to the above definitions):

p_1 = Exercise Price per Share prior to the Re-calculation Event
p_2 = Exercise Price per Share after the Re-calculation Event

In the event that a Re-calculation Event would lead to an Exercise Price after the Re-calculation Event which is less than the par value of the Company's shares, the Exercise Price at Exercise shall instead equal the par value of the Company's shares.

9. AMENDMENT OF VESTING SCHEDULE AND EXPIRATION DATE ETC.

9.1 **Change in Control**

9.1.1 In the event of a Change in Control the Board may, in its sole discretion, decide to (i) set a period during which the Holder may request Exercise (an "**Exercise Period**") and, if determined by the Board, a new Expiration Date, in accordance with the provisions of clause 9.1.2, (ii) have these terms and conditions continue following the Change in Control in accordance with the provisions of clause 9.1.3, (iii) allow a grant of substantially equivalent rights (i.e., among other things, that preserves the intrinsic value and vesting schedule of the Stock Options) to acquire securities in a new company as the Holder had in the Company immediately before the Change in Control in accordance with the provisions of clause 9.1.4, or (iv) allow an amendment of the terms and

conditions to the effect that, following the Change in Control, a new company assumes the Company's rights and obligations hereunder in accordance with the provisions of clause 9.1.5.

9.1.1.1 *"**Change in Control**" shall mean and include each of the following:*

*(i) a transaction or series of transactions (other than an offering of Shares to the general public through a registration statement filed with the Securities and Exchange Commission) whereby any "person" or related "group" of "persons" (as such terms are used in Sections 13(d) and 14(d)(2) of the Securities Exchange Act of 1934, as amended from time to time (the "**Exchange Act**")) directly or indirectly acquires beneficial ownership (within the meaning of Rules 13d-3 and 13d-5 under the Exchange Act) of securities of the Company possessing more than 50% of the total combined voting power of the Company's securities outstanding immediately after such acquisition; provided, however, that the following acquisitions shall not constitute a Change in Control: (w) any acquisition by the Company; (x) any acquisition by an employee benefit plan maintained by the Company, (y) any acquisition which complies with clauses 9.1.1.1(iii)(I)-(III); or (z) in respect of a Stock Option held by a particular Holder, any acquisition by the Holder or any group of persons including the Holder (or any entity controlled by the Holder or any group of persons including the Holder);*

(ii) the Incumbent Directors cease for any reason to constitute a majority of the Board;

*(iii) the consummation by the Company (whether directly involving the Company or indirectly involving the Company through one or more intermediaries) of (x) a merger, consolidation, reorganization, or business combination, (y) a sale or other disposition of all or substantially all of the Company's assets in any single transaction or series of related transactions or (z) the acquisition of assets or stock of another entity, in each case other than a transaction: (I) which results in the Company's voting securities outstanding immediately before the transaction continuing to represent (either by remaining outstanding or by being converted into voting securities of the Company or the person that, as a result of the transaction, controls, directly or indirectly, the Company or owns, directly or indirectly, all or substantially all of the Company's assets or otherwise succeeds to the business of the Company (the Company or such person, the "**Successor Entity**")) directly or indirectly, at least a majority of the combined voting power of the Successor Entity's outstanding voting securities immediately after the transaction, and (II) after which no person or group beneficially owns voting securities representing 50% or more of the combined voting power of the Successor Entity; provided, however, that no person or group shall be treated for purposes of this clause (II) as beneficially owning 50% or more of the combined voting power of the Successor Entity solely as a result of the voting power held in the Company prior to the consummation of the transaction; and (III) after which at least a majority of the members of the board of directors (or the analogous governing body) of the Successor Entity were Board members at the time of the Board's approval of the execution of the initial agreement providing for such transaction; or*

(iv) the date which is 10 Business Days prior to the completion of a liquidation or dissolution of the Company.

9.1.1.2 *"**Incumbent Directors**' shall mean for any period of 12 consecutive months, individuals who, at the beginning of such period, constitute the Board together with any new director(s) (other than a director designated by a person who shall have entered into an agreement with the Company to effect a transaction described in clause 9.1.1.1(i) or 9.1.1.1(iii)) whose election or nomination for election to the Board was approved by a vote of at least a majority (either by a specific vote or by approval of the proxy statement of the Company in which such person is named as a nominee for director without objection to such nomination) of the directors then still in office who either were directors at the beginning of the 12-month period or whose election or nomination for election was previously so approved. No individual initially elected or nominated as a director of the Company as a result of an actual or threatened election contest with respect to directors or as a result of any*

other actual or threatened solicitation of proxies by or on behalf of any person other than the Board shall be an Incumbent Director.

9.1.2 If the Board decides to set an Exercise Period, the Board shall notify the Holder in connection with the Change in Control of the Exercise Period and, if the Board so decides, the new Expiration Date. The notice will set forth the Exercise Period, which shall, to the extent possible taking into account the circumstances and process related to the Change in Control, give the Holder reasonable time to decide whether to Exercise any vested Stock Options. The Holder shall during the Exercise Period be entitled to Exercise any Stock Options which have vested in accordance with these terms and conditions. The Board shall be entitled, in its sole discretion, to decide whether to adopt a new Expiration Date so that, at the conclusion of such Exercise Period, any unvested Stock Options shall lapse, or whether unvested Stock Options will continue to vest. The Board shall also be entitled, in its sole discretion, to decide whether any vested Stock Options which have not been subject to Exercise during an Exercise Period shall be subject to a new Expiration Date and therefore lapse, or whether the vested Stock Options will be exercisable following the expiration of an Exercise Period. If the Board decides to establish a new Expiration Date so that any unvested, and/or any vested but unexercised, Stock Options shall lapse, the Holder shall have no further rights pursuant to the Stock Options.

9.1.3 If the Board decides to have these terms and conditions continue following the effective date of the Change in Control, the vesting schedule and the Expiration Date, as set forth in the Notice of Grant and clause 6 respectively, shall remain unaffected by the Change in Control.

9.1.4 If the Board decides to allow a grant of substantially equivalent rights to acquire securities in a new company as the Holder had in the Company immediately before the Change in Control, all vested and unvested Stock Options shall lapse as of the closing of the Change in Control and, subject to the grant of such substantially equivalent rights, the Holder shall have no further rights pursuant to the Stock Options after the closing of the Change in Control.

9.1.5 If the Board decides to allow an amendment of the terms and conditions to the effect that, following the Change in Control, a new company assumes the Company's rights and obligations hereunder, the Holder's right to subscribe for Shares in accordance with clause 3 shall relate to shares in such new company.

9.2 **Merger and de-merger**

In the event of a merger through which the Company is absorbed into another company (other than a Change in Control) or a de-merger through which the Company is divided into two or more new entities (other than a Change in Control), the Board shall, before the adoption of any resolution in the aforementioned respects, determine an Exercise Period, the first day of which shall fall at least 20 calendar days after the date of the notice by the Board to the Holder of such Exercise Period. During such Exercise Period the Holder shall be entitled to Exercise any Stock Options which have vested in accordance with these terms and conditions. At the conclusion of such Exercise Period, all Stock Options which have not been subject to Exercise during the Exercise Period shall lapse and the Holder shall have no rights pursuant to the Stock Options.

9.3 **Share for share exchange etc.**

9.3.1 If the Company's shareholders perform a share for share exchange for the purpose of creating a new holding company to the Company, or if a new company otherwise replaces the Company as the holding company in the Group, and such transaction is not a Change in Control, the Board shall use reasonable efforts to either: (a) ensure that the Holder receives substantially equivalent rights to acquire securities in the new holding company as the Holder had in the Company immediately before such transaction, provided that the Holder in writing waives any rights under the Stock Options, which shall lapse as a consequence thereof; or (b) amend these terms and conditions to the effect that the new holding company assumes the Company's rights and obligations hereunder and

that the Holder's right to subscribe for Shares in accordance with clause 3 shall relate to shares in the new holding company.

9.3.2 In the event of a transaction as described in clause 9.3.1, the Holder shall always be obliged upon the Board's request to, in case of (a) in clause 9.3.1, waive any rights under the Stock Options provided that the Holder receives substantially equivalent rights in the new holding company as the Holder had in the Company immediately before such transaction or, in case of (b) in clause 9.3.1, approve any such amendment to these terms and conditions. No waiver shall be requested or required, and the Company may act unilaterally in accordance with this clause 9.3.2, provided that the Stock Options preserve the material terms and conditions of the underlying rights, including the vesting schedule and the intrinsic value of the Stock Option as of immediately prior to such transaction.

9.3.3 If the Company effects a change of the classes of outstanding Company securities, the Board shall, appropriately and proportionately adjust the class of securities subject to the Stock Options. The Board will make such adjustments, and its determination will be final, binding and conclusive.

10. CANCELLATION OF STOCK OPTIONS IN CASE OF A MATERIAL BREACH

10.1 If the Holder commits a material breach of any of its obligations under these terms and conditions, and the breach has not been rectified within 15 calendar days from the date the Holder receives a written demand for rectification, the Company shall be entitled to cancel the Holder's unexercised Stock Options (vested as well as unvested) which as a consequence thereof shall lapse.

10.2 A material breach for purposes of clause 10 and 11 shall mean a breach by the Holder of the provisions in clauses 7.2, 9.3, 12, 13, 15.1 or 15.5 or any other breach by the Holder of these terms and conditions that is reasonably likely to have a material adverse effect on the Company.

11. LIQUIDATED DAMAGES IN CASE OF A MATERIAL BREACH

11.1 If the Holder commits a material breach in accordance with clause 10.2 and the breach has not been rectified within 15 calendar days from the date the Holder receives a written demand for rectification, the Holder shall upon written request by the Company pay liquidated damages in an amount corresponding to 50 per cent of the aggregate then-current fair market value of the Shares represented by, or delivered upon exercise of, the Stock Options. The Company shall not be entitled to demand liquidated damages if the Company has cancelled the Holder's Stock Options pursuant to clause 10.1.

11.2 If the Holder commits a material breach of any of its obligations under these terms and conditions, the Company is entitled, in addition to any liquidated damages in accordance with the provisions of clause 11.1, to claim damages in an amount corresponding to the difference between the actual damage suffered and the liquidated damages (if any), if such damage exceeds the amount of the liquidated damages (if any).

11.3 The payment by the Holder of any liquidated damages and regular damages shall not affect the Company's right to pursue other remedies that the Company may have against the Holder as a result of a breach.

12. APPOINTMENT OF AGENT ETC.

12.1 The Holder hereby irrevocably authorises the Board, with full power of substitution, to endorse such documents on behalf of the Holder and to take any other action reasonably necessary to effect any of the Holder's obligations under these terms and conditions, including but not limited to, execution of a transfer of Shares owned by the Holder. The Board shall hold any payment received for the benefit of the Holder under this clause 12 on behalf of the Holder and separated from any other funds. A

withdrawal of the authorisation as provided for in this clause 12 constitutes a material breach of these terms and conditions for purposes of clause 10 and 11.

12.2 The Holder hereby undertakes to sign, execute and deliver such documents, and to take any other actions, as reasonably required by the Board in order to ensure compliance with or observation of the Holder's obligations under these terms and conditions.

13. PAYMENT OF CERTAIN TAXES

13.1 The Group will perform withholding of taxes in relation to the Stock Options and the Shares acquired at Exercise if and to the extent required by law or decisions by governmental authorities or if the Board in its reasonable opinion considers it appropriate for the Group to perform such withholding of taxes (any such withholding tax obligation of the Holder, "**Withholding Obligation**"). For the avoidance of doubt, this clause 13.1 shall not affect the Holder's liabilities and undertakings pursuant to the remainder of this clause 13.

13.2 The Holder is liable for and undertakes to pay any taxes (including but not limited to income taxes, capital taxes, employment taxes, self-employment taxes, social security contributions as well as any tax penalties thereon) for which the Holder may be liable in relation to the Stock Options and any Shares acquired at Exercise ("**Holder's Tax Liability**"). For the avoidance of doubt, any Withholding Obligation (whether preliminary or deducted at source) on employment income, dividends and capital gains will always be considered as Holder's Tax Liability.

13.3 The calculation of any Withholding Obligation will be subject to applicable rules and regulations based on the applicable tax rates, as determined by the Board in its sole discretion in connection with determining the Holder's Payment Obligations.

13.4 The Group assumes no responsibility for any Holder's Tax Liability. The Holder represents that the Holder is not relying on the Group for any tax advice and explicitly agrees not to demand any compensation from the Group to cover any Holder's Tax Liability.

14. DATA PROTECTION

For the purposes of implementing, managing and administering the Stock Option Program, and for the Holder to participate in the Stock Option Program, it is necessary for the Company, acting as data controller, and other companies in the Group to process the Holder's personal data (and, in the case of an entity Holder, the personal data of the entity's sole owner). For more information regarding the processing of the Holder's personal data, see the Privacy Notice attached as Appendix 1.

15. MISCELLANEOUS

15.1 The Stock Options may not be transferred, otherwise disposed, pledged, borrowed against or used as any form of security.

15.2 The Company shall be entitled to amend these terms and conditions to the extent required by legislation, regulations, court decisions, decisions by public authorities or agreements, or if such amendments, in the reasonable judgment of the Company, are otherwise necessary for practical reasons, and provided in all of the aforementioned cases that the Holder's rights are in no material respects adversely affected. If the Holder's rights would be materially adversely affected, the Holder's written consent shall be necessary for such amendment.

15.3 Nothing in these terms and conditions or in any right or Stock Option granted under these terms and conditions shall confer upon the Holder the right to continue in service for any period of specific duration or interfere with or otherwise restrict in any way the rights of the Group or of the Holder, which rights are hereby expressly reserved by each, to terminate the Holder's service at any time.

15.4 The Holder has no right to compensation or damages for any loss in respect of the Stock Option where such loss arises (or is claimed to arise), in whole or in part, from the termination of the Holder's service; or notice to terminate service given by or to the Holder.

15.5 The Holder undertakes not to use or disclose the contents of these terms and conditions, or any financial information, trade secrets, customer lists or other information which it may from time to time receive or obtain (orally or in writing or in disc or electronic form) as a result of entering into or performing its obligations pursuant to these terms and conditions or otherwise, relating to the Group unless: (i) required to do so by law or pursuant to any order of court or other competent authority or tribunal; or (ii) such disclosure has been consented to by the Company, provided, however, that the Holder may disclose the terms and conditions of the Holder's Stock Options to the Holder's spouse, personal attorney and/or tax preparer or, in the case of Holders that are entities, the owner thereof (who may, for the avoidance of doubt, subsequently disclose this information to his/her spouse, personal attorney and/or tax preparer). If a Holder becomes required, in circumstances contemplated by (i) to disclose any information, the disclosing Holder shall use its best efforts to consult with the Company prior to any such disclosure.

15.6 Shares will not be issued or delivered under this Stock Option Program unless the issuance and delivery of such Shares comply with (or are exempt from) all applicable requirements of law, including (without limitation) the Securities Act of 1933, as amended, the rules and regulations promulgated thereunder, state securities laws and regulations, and the regulations of any stock exchange or other securities market on which the Company's securities may then be traded. In addition to the terms and conditions provided herein, the Board may require that a Holder make such reasonable covenants, agreements and representations as the Board, in its sole discretion, deems advisable in order to comply with applicable law. The Board shall have the right to require any Holder to comply with any timing or other restrictions with respect to the settlement, distribution or exercise of any Stock Option, including a window-period limitation, as may be imposed in the sole discretion of the Board.

16. TERM AND TERMINATION

These terms and conditions shall enter into force on the Implementation Date and remain in force until close of business in Sweden on 31 March 2032. The parties shall, however, after such date continue to be bound by the provisions set out in clause 15.5 and 17.

17. GOVERNING LAW AND JURISDICTION

17.1 These terms and conditions shall be governed by and construed in accordance with the substantive law of Sweden (excluding its rules on conflict of laws).

17.2 The Company and the Holder undertake to use their best efforts to resolve any disagreements or disputes regarding these terms and conditions between them or any two or more of them through discussions and mutual agreement.

17.3 Any dispute, controversy or claim arising out of or in connection with these terms and conditions, or the breach, termination or invalidity thereof, shall be finally settled by arbitration in accordance with the Arbitration Rules of the Arbitration Institute of the Stockholm Chamber of Commerce. Unless otherwise agreed between the parties to such arbitration, the Arbitral Tribunal shall be composed of a sole arbitrator, the seat of arbitration shall be Stockholm and the language to be used in the arbitral proceedings shall be English.

17.5 The arbitral proceedings and all information and documentation related thereto shall be confidential, unless a disclosure is required under any applicable law, relevant stock exchange regulations or order of court, other tribunal or competition authority or as otherwise agreed between the Company and the Holder in writing.

FIRST AMENDMENT TO
SPOTIFY TECHNOLOGY S.A.
TERMS AND CONDITIONS GOVERNING CONSULTANT STOCK OPTIONS 2020/2025
TERMS AND CONDITIONS GOVERNING CONSULTANT RESTRICTED STOCK UNITS 2020/2025

THIS FIRST AMENDMENT (this "***Amendment***") to the Terms and Conditions Governing Consultant Stock Options 2020/2025 (the "***Consultant Stock Option Plan***") and the Terms and Conditions Governing Consultant Restricted Stock Units 2020/2025 (the "***Consultant RSU Plan***", and collectively with the Consultant Stock Option Plan, the "***Consultant Incentive Plans***") is made and adopted by the Board of Directors (the "***Board***") of Spotify Technology S.A., a Luxembourg *société anonyme* (the "***Company***").

RECITALS

WHEREAS, the Company maintains the Consultant Incentive Plans;

WHEREAS, pursuant to Section 15.2 of the Consultant Stock Option Plan and Section 13.1.2 of the Consultant RSU Plan, the Board has the authority to amend the Consultant Incentive Plans from time to time; and

WHEREAS, the Board believes it is necessary for practical reasons to amend the Consultant Incentive Plans as set forth herein.

NOW, THEREFORE, BE IT RESOLVED, that the Consultant Incentive Plans are hereby amended as follows:

AMENDMENT

1. Section 4.2 of the Consultant Stock Option Plan is hereby deleted and replaced in its entirety with the following:

   Stock Options may be granted to Holders during the period as from and including 1 January 2020 up to and including 31 March 2021. The determination of the Consultants who will be granted Stock Options, and the date or dates of grant of Stock Options during such period (each, a "***Date of Grant***"), shall be determined by the Board in its sole discretion.

2. Section 4.1.2 of the Consultant RSU Plan is hereby deleted and replaced in its entirety with the following:

   Restricted Stock Units may be granted to Holders during the period as from and including 1 January 2020 up to and including 31 March 2021. The determination of the Consultants who will be granted Restricted Stock Units, and the date or dates of grant of Restricted Stock Units during such period (each, a "***Date of Grant***"), shall be determined by the Board in its sole discretion.

3. This Amendment shall be and is hereby, in applicable part, incorporated into and forms a part of the Consultant Stock Option Plan and Consultant RSU Plan.

4. Except as expressly provided herein, all terms and conditions of the Consultant Stock Option Plan and Consultant RSU Plan shall remain in full force and effect.

Exhibit 4.34

TERMS AND CONDITIONS GOVERNING CONSULTANT RESTRICTED STOCK UNITS 2021/2026 IN SPOTIFY TECHNOLOGY S.A.

1. RESTRICTED STOCK UNIT ISSUER AND HOLDER

1.1 Spotify Technology S.A., a Luxembourg *société anonyme*, with registered address at 42-44, avenue de la Gare, L-1610 Luxembourg, registered with the Luxembourg Trade and Companies' Register under number B 123.052 (the **"Company"**).

1.2 Consultant to the Company or of any affiliate, subsidiary or other company controlled by the Company (collectively, the "Group," each individually, a **"Group Company"**) who has received an individual notice of grant (the **"Holder"**) (the **"Notice of Grant"**).

1.3 "Consultant" shall mean (a) any natural person engaged to provide consulting services for the Group or (b) any entity of which any such natural person is the sole owner, in each case who qualifies as a consultant or advisor under the applicable rules of the Securities and Exchange Commission for registration of shares on a Form S-8 Registration Statement.

2. BACKGROUND

2.1 The Company's board of directors (the **"Board"**) considers the existence of efficient share-related incentive programs for Consultants to be of material importance for the development of the Group. By connecting Consultants' economic interests to the Group's results and value trend, a long-term increase in value is promoted. Accordingly, the interests of participating Consultants and shareholders will coincide.

2.2 The existence of a contract of service between a Consultant and a Group Company shall not give the Consultant any right or expectation to be granted Restricted Stock Units at any time under this restricted stock unit program (the **"Restricted Stock Unit Program"**) or otherwise. Moreover, the granting of a Restricted Stock Unit shall not give the Holder any right or expectation to be granted additional Restricted Stock Units at any time under the Restricted Stock Unit Program or otherwise.

3. RESTRICTED STOCK UNIT; SHARES AVAILABLE

3.1 Subject to the terms and conditions set out herein, the Holder is entitled to delivery of one share in the Company (a **"Shar**e") per restricted stock unit (a **"Restricted Stock Unit"**). Subject to the provisions of clauses 7.1.5 and 7.2.3, the maximum aggregate number of Shares that may be subject to Restricted Stock Units under the Pool is 50,000 Shares.

3.2 **"Pool"** means the Shares granted under the Restricted Stock Unit Program and the Terms and Conditions Governing Consultant Stock Options 2021/2026 in Spotify Technology, S.A (each, a **"Pool Plan"**).

Shares available for grant or sale under the Pool will be reduced by the net Shares granted under any of the Pool Plans.

4. IMPLEMENTATION AND GRANT

4.1 The Restricted Stock Unit Program shall be effective as per April 1, 2021 (the "**Implementation Date**").

4. Restricted Stock Units may be granted to the Holder during the period as from and including April 1, 2021 up to and including March 31, 2022. The determination of the Consultants who will be

granted Restricted Stock Units, and the date or dates of grants of Restricted Stock Units during such period (each, a "**Date of Grant**"), shall be determined by the Board in its sole discretion.

5. VESTING

5.1 **Vesting general**

5.1.1 Vesting of the Restricted Stock Units shall occur on the dates set out in the Notice of Grant, subject to the Holders's continued service with the Group. The vesting schedule set out in the Notice of Grant may be amended pursuant to clause 5.2.

5.2 **Consultant termination of services**

5.2.1 If there is a Termination of Services for any reason, all unvested Restricted Stock Units shall cease vesting as of the date of Termination of Services and shall immediately lapse.

5.2.2 "**Services**" means the services the Holder (or, in the case of any entity Holder, the services of the sole owner of such entity) provides to a Group Company under a services or consulting agreement.

5.2.3 "**Termination**" means (i) that the Holder is no longer providing Services to any Group Company as a Consultant or (ii) in the case of a Holder that is an entity, the sole owner of such entity on the Date of Grant ceases to be the sole owner of such entity.

5.2.4 If a Holder changes the entity for which he or she provides Services, but continues to provide Services to the Group, such change will not be deemed a Termination of Services for purposes of the Consultant's Restricted Stock Units, provided that there is no other interruption or termination of the Holder's Services, unless the Board, in its sole discretion, determines that the entity to which the Holder transfers is not a qualified affiliate of the Group. If a Holder changes the capacity in which the Holder provides service to the Group from a Consultant to an employee, such change will not be deemed a Termination of Services for purposes of his/her Restricted Stock Units; provided, however, that the Restricted Stock Units will thereafter be subject to the terms of the Terms and Conditions Governing Employee Restricted Stock Units 2021/2026 in the Company, to the extent determined by the Board.

6. SETTLEMENT

6.1.1 Settlement will occur through an electronic platform, where the Holder will be able to carry out any actions required to settle any Withholding Obligation (as defined in clause 11.1 below) (any such Withholding Obligations that the Board requires to be so settled, the "**Holder's Payment Obligations**").

6.1.2 Without limiting the foregoing, unless the Board determines otherwise, Holder's Payment Obligations will be satisfied by a "cash settlement" arrangement pursuant to which the Holder's Payment Obligations shall be satisfied with money that shall have been paid by the Holder to the Holder's personal account on the electronic platform ("**Cash Settlement**").

6.1.3 To the extent the Board determines that Cash Settlement will not be used to satisfy a Holder's Payment Obligations, the Board may require the Holder to satisfy such Holder's Payment Obligations by any other method or combination of methods determined in the Board's sole discretion, including, without limitation, by:

i. placing a market sell order with a broker acceptable to the Board covering the minimum number of Shares (rounded up to the nearest whole Share) then being distributed in respect of vested Restricted Stock Units as are sufficient to satisfy such Holder's Payment Obligations. The net proceeds of such sale shall be delivered to the Company or its applicable Subsidiary upon the settlement of such sale, and any excess proceeds resulting

from rounding up to the nearest whole Share shall be deposited into the Holder's account on the electronic platform; or

ii. a "net settlement" arrangement pursuant to which the Company will reduce the number of Shares issuable upon vesting or settlement by the minimum number of Shares (rounded up to the nearest whole Share, without any consideration to the Holder for such rounding) as are sufficient to satisfy Holder's Payment Obligations.

6.1.4 As soon as reasonably practicable (but no later than 30 days) following the completion of all actions required by the Holder to settle the Holder's Payment Obligations with respect to any Restricted Stock Units that become vested (or if no such actions are required, within 30 days following the vesting date), the Company shall issue the number of Shares subject to the Restricted Stock Units that become vested in the name of the Holder (or if deceased, the Holder's legal representative) (less any Shares reduced or sold pursuant to this clause 6). The Shares will be issued as fully paid and nonassessable Shares and may be authorized but previously unissued shares, treasury shares or shares purchased in the open market.

6.1.5 If the Holder does not complete any required actions to settle the Holder's Payment Obligations with respect to any Restricted Stock Units that vested within 30 days following the applicable vesting date, then such Restricted Stock Units will be cancelled with respect to those Shares that would otherwise have become issuable therefor, unless otherwise decided by the Board.

7. AMENDMENT OF THE RESTRICTED STOCK UNITS; ADJUSTMENT

7.1 **Change in Control**

7.1.1 With respect to any Restricted Stock Units that remain unvested as of the date immediately following the date of the Change in Control, the Board may, in its sole discretion, decide to (i) have these terms and conditions continue following the effective date of the Change in Control in accordance with the provisions of clause 7.1.2, (ii) allow a grant of substantially equivalent rights (i.e., among other things, that preserves the intrinsic value and vesting schedule of the Restricted Stock Units) with respect to securities in a new company to the rights the Holder had in the Company immediately before the Change in Control in accordance with the provisions of clause 7.1.3 or (iii) allow an amendment of the terms and conditions to the effect that, following the Change in Control, a new company assumes the Company's rights and obligations hereunder in accordance with the provisions of clause 7.1.4.

7.1.2 If the Board decides to have these terms and conditions continue following the effective date of the Change in Control, the vesting and settlement schedule as set forth in the Notice of Grant and 6 shall remain unaffected by the Change in Control.

7.1.3 If the Board decides to allow a grant of substantially equivalent rights with respect to securities in a new company to the rights the Holder had in the Company immediately before the Change in Control, all unvested Restricted Stock Units shall lapse and be cancelled as of the closing and, subject to the grant of such substantially equivalent rights, the Holder shall have no further rights pursuant to the Restricted Stock Units after the closing.

7.1.4 If the Board decides to allow an amendment of the terms and conditions to the effect that, following the Change in Control, a new company assumes the Company's rights and obligations hereunder, the Holder's vested and unsettled Restricted Stock Units and unvested Restricted Stock Units shall relate to shares in such new company.

7.1.5 If any share split, reverse share split, share dividend, recapitalization, combination, reclassification or other distribution of the Company's Shares without the receipt of consideration by the Company occurs, the Board will adjust the number and class of Shares that may be delivered under the number and class of Shares covered by each outstanding Restricted Stock Unit and in a manner that

complies with all applicable laws to prevent diminution or enlargement of the benefits or potential benefits intended to be made available with respect to any grant of any Restricted Stock Unit.

7.1.6 "**Change in Control**" shall mean and include each of the following:

(i) a transaction or series of transactions (other than an offering of Shares to the general public through a registration statement filed with the Securities and Exchange Commission) whereby any "person" or related "group" of "persons" (as such terms are used in Sections 13(d) and 14(d)(2) of the Securities Exchange Act of 1934, as amended from time to time (the "**Exchange Act**")) directly or indirectly acquires beneficial ownership (within the meaning of Rules 13d-3 and 13d-5 under the Exchange Act) of securities of the Company possessing more than 50% of the total combined voting power of the Company's securities outstanding immediately after such acquisition; provided, however, that the following acquisitions shall not constitute a Change in Control: (w) any acquisition by the Company; (x) any acquisition by an employee benefit plan maintained by the Company, (y) any acquisition which complies with clauses 7.1.6 (iii)(I)-(III); or (z) in respect of an Restricted Stock Unit held by a particular Holder, any acquisition by the Holder or any group of persons including the Holder (or any entity controlled by the Holder or any group of persons including the Holder); (ii) the Incumbent Directors cease for any reason to constitute a majority of the Board; (iii) the consummation by the Company (whether directly involving the Company or indirectly involving the Company through one or more intermediaries) of (x) a merger, consolidation, reorganization, or business combination, (y) a sale or other disposition of all or substantially all of the Company's assets in any single transaction or series of related transactions or (z) the acquisition of assets or stock of another entity, in each case other than a transaction: (I) which results in the Company's voting securities outstanding immediately before the transaction continuing to represent (either by remaining outstanding or by being converted into voting securities of the Company or the person that, as a result of the transaction, controls, directly or indirectly, the Company or owns, directly or indirectly, all or substantially all of the Company's assets or otherwise succeeds to the business of the Company (the Company or such person, the "**Successor Entity**")) directly or indirectly, at least a majority of the combined voting power of the Successor Entity's outstanding voting securities immediately after the transaction, and (II) after which no person or group beneficially owns voting securities representing 50% or more of the combined voting power of the Successor Entity; provided, however, that no person or group shall be treated for purposes of this clause (II) as beneficially owning 50% or more of the combined voting power of the Successor Entity solely as a result of the voting power held in the Company prior to the consummation of the transaction; and (III) after which at least a majority of the members of the board of directors (or the analogous governing body) of the Successor Entity were Board members at the time of the Board's approval of the execution of the initial agreement providing for such transaction; or (iv) the date which is 10 days on which banks are open for business generally (and not for internet banking only) in Luxembourg and the U.S. prior to the completion of a liquidation or dissolution of the Company.

7.1.7 "**Incumbent Directors**" shall mean for any period of 12 consecutive months, individuals who, at the beginning of such period, constitute the Board together with any new director(s) (other than a director designated by a person who shall have entered into an agreement with the Company to effect a transaction described in clause 7.1.66(i) or 6(iii)) whose election or nomination for election to the Board was approved by a vote of at least a majority (either by a specific vote or by approval of the proxy statement of the Company in which such person is named as a nominee for director without objection to such nomination) of the directors then still in office who either were directors at the beginning of the 12-month period or whose election or nomination for election was previously so approved. No individual initially elected or nominated as a director of the Company as a result of an actual or threatened election contest with respect to directors or as a result of any other actual or

threatened solicitation of proxies by or on behalf of any person other than the Board shall be an Incumbent Director.

7.2 **Share for share exchange etc.**

7.2.1 If the Company's shareholders perform a share for share exchange for the purpose of creating a new holding company to the Company, or if a new company otherwise replaces the Company as the holding company in the Group, and such transaction is not a Change in Control, the Board shall use reasonable efforts to either: (a) ensure that the Holder receives substantially equivalent rights with respect to securities in the new holding company as the Holder had in the Company immediately before such transaction, provided that the Holder in writing waives any rights under the Restricted Stock Units, which shall lapse and be cancelled as a consequence thereof; or (b) amend these terms and conditions to the effect that the new holding company assumes the Company's rights and obligations hereunder and that the Holder's vested and unsettled Restricted Stock Units and unvested Restricted Stock Units shall relate to shares in such new company.

7.2.2 In the event of a transaction as described in clause 7.2.1, the Holder shall always be obliged upon the Board's request to, in case of (a) in clause 7.2.1, waive any rights under the Restricted Stock Units provided that the Holder receives substantially equivalent rights in the new holding company as the Holder had in the Company immediately before such transaction or, in case of (b) in clause 7.2.1, approve any such amendment to these terms and conditions. No waiver shall be requested or required, and the Company may act unilaterally in accordance with this clause 7.2, provided that the Restricted Stock Units preserve the material terms and conditions of the underlying rights, including the vesting schedule and the intrinsic value of the Restricted Stock Unit as of immediately prior to such transaction.

7.2.3 If the Company effects a change of the classes of outstanding Company securities, the Board shall, appropriately and proportionately adjust the class of securities subject to the Restricted Stock Units. The Board will make such adjustments, and its determination will be final, binding and conclusive.

8. CANCELLATION OF RESTRICTED STOCK UNITS IN CASE OF A MATERIAL BREACH

8.1.1 If the Holder commits a material breach of any of its obligations under these terms and conditions and the breach has not been rectified within 15 calendar days from the date the Holder receives a written demand for rectification, the Company shall be entitled to cancel the Holder's Restricted Stock Units, which as a consequence thereof shall lapse.

8.1.2 A material breach for purposes of clause 8 and 9 shall mean a breach by the Holder of the provisions in clauses 6.3, 7.2, 10, 11, 13.1 or 13.5 or any other breach by the Holder of these terms and conditions that is reasonably likely to have a material adverse effect on the Company.

9. LIQUIDATED DAMAGES IN CASE OF A MATERIAL BREACH

9.1.1 If the Holder commits a material breach in accordance with clause 8.1.2 and the breach has not been rectified within 15 calendar days from the date the Holder receives a written demand for rectification, the Holder shall upon written request by the Company pay liquidated damages in an amount corresponding to 50 percent of the aggregate then-current fair market value of the Shares represented by or delivered upon settlement of the Restricted Stock Units. The Company shall not be entitled to demand liquidated damages if the Company has cancelled the Holder's Restricted Stock Units pursuant to clause 8.1.1.

9.1.2 If the Holder commits a material breach of any of its obligations under these terms and conditions, the Company is entitled, in addition to any liquidated damages in accordance with the provisions of clause 9.1.1, to claim damages in an amount corresponding to the difference between the actual

damage suffered and the liquidated damages (if any), if such damage exceeds the amount of the liquidated damages (if any).

9.1.3 The payment by the Holder of any liquidated damages and regular damages shall not affect the Company's right to pursue other remedies that the Company may have against the Holder as a result of a breach.

10. APPOINTMENT OF AGENT ETC.

10.1.1 The Holder hereby irrevocably authorizes the Board, with full power of substitution, to endorse such documents on behalf of the Holder and to take any other action reasonably necessary to effect any of the Holder's obligations under these terms and conditions, including but not limited to, execution of a transfer of Shares owned by the Holder. The Board shall hold any payment received for the benefit of the Holder under this clause 10.1 on behalf of the Holder and separated from any other funds. A withdrawal of the authorization as provided for in this clause 10.1 constitutes a material breach of these terms and conditions for purposes of clause 8 and 9.

10.1.2 The Holder hereby undertakes to sign, execute and deliver such documents (including without limitation any subscription form), and to take any other actions, as reasonably required by the Board in order to ensure compliance with or observation of the Holder's obligations under these terms and conditions.

11. PAYMENT OF CERTAIN TAXES

11.1.1 The Group will perform withholding of taxes in relation to the Restricted Stock Units and the Shares delivered upon settlement if and to the extent required by law or decisions by governmental authorities or if the Board in its reasonable opinion considers it appropriate for the Group to perform such withholding of taxes (any such withholding tax obligation of the Holder, "**Withholding Obligation**"). For the avoidance of doubt, this clause 11.1.1 shall not affect the Holder's liabilities and undertakings pursuant to the remainder of this clause 11.

11.1.2 The Holder is liable for and undertakes to pay any taxes (including but not limited to income taxes, capital taxes, employment taxes, self-employment taxes, social security contributions as well as any tax penalties thereon) for which the Holder may be liable in relation to the Restricted Stock Units and any Shares issued at settlement ("**Holder's Tax Liability**"). For the avoidance of doubt, any Withholding Obligation (whether preliminary or deducted at source) on employment income, dividends and capital gains will always be considered as Holder's Tax Liability.

11.1.3 The calculation of any Withholding Obligation will be subject to applicable rules and regulations based on the applicable tax rates, as determined by the Board in its sole discretion in connection with determining the Holder's Payment Obligations.

11.1.4 The Group assumes no responsibility for any Holder's Tax Liability. The Holder represents that the Holder is not relying on the Group for any tax advice and explicitly agrees not to demand any compensation from the Group to cover any Holder's Tax Liability.

12. DATA PROTECTION

12.1 For the purposes of implementing, managing and administering the Restricted Stock Unit Program, and for the Holder to participate in the Restricted Stock Unit Program, it is necessary for the Company, acting as data controller, and other companies in the Group to process the Holder's personal data (and, in the case of an entity Holder, the personal data of the entity's sole owner). For more information regarding the processing of the Holder's personal data, see the Privacy Notice attached as Appendix 1.

13. MISCELLANEOUS

13.1.1 The Restricted Stock Units may not be transferred, otherwise disposed, pledged, borrowed against or used as any form of security.

13.1.2 The Company shall be entitled to amend these terms and conditions to the extent required by legislation, regulations, court decisions, decisions by public authorities or agreements, or if such amendments, in the reasonable judgment of the Company, are otherwise necessary for practical reasons, and provided in all of the aforementioned cases that the Holder's rights are in no material respects adversely affected. If the Holder's rights would be materially adversely affected, the Holder's written consent shall be necessary for such amendment.

13.1.3 Nothing in these terms and conditions or in any right or Restricted Stock Unit granted under these terms and conditions shall confer upon the Holder the right to continue in service for any period of specific duration or interfere with or otherwise restrict in any way the rights of the Group or of the Holder, which rights are hereby expressly reserved by each, to terminate the Holder's service at any time.

13.1.4 The Holder has no right to compensation or damages for any loss in respect of the Restricted Stock Unit where such loss arises (or is claimed to arise), in whole or in part, from the termination of the Holder's service; or notice to terminate service given by or to the Holder.

13.1.5 The Holder undertakes not to use or disclose the contents of these terms and conditions, or any financial information, trade secrets, customer lists or other information which it may from time to time receive or obtain (orally or in writing or in disc or electronic form) as a result of entering into or performing its obligations pursuant to these terms and conditions or otherwise, relating to the Group unless: (i) required to do so by law or pursuant to any order of court or other competent authority or tribunal; or (ii) such disclosure has been consented to by the Company, provided, however, that the Holder may disclose the terms and conditions of the Holder's Restricted Stock Units to the Holder's spouse, personal attorney and/or tax preparer or, in the case of Holders that are entities, the owner thereof (who may, for the avoidance of doubt, subsequently disclose this information to his/her spouse, personal attorney and/or tax preparer). If a Holder becomes required, in circumstances contemplated by (i) to disclose any information, the disclosing Holder shall use its best efforts to consult with the Company prior to any such disclosure.

13.1.6 Shares will not be issued or delivered under this Restricted Stock Unit Program unless the issuance and delivery of such Shares comply with (or are exempt from) all applicable requirements of law, including (without limitation) the Securities Act of 1933, as amended, the rules and regulations promulgated thereunder, state securities laws and regulations, and the regulations of any stock exchange or other securities market on which the Company's securities may then be traded. In addition to the terms and conditions provided herein, the Board may require that a Holder make such reasonable covenants, agreements and representations as the Board, in its sole discretion, deems advisable in order to comply with applicable law. The Board shall have the right to require any Holder to comply with any timing or other restrictions with respect to the settlement, distribution or exercise of any Restricted Stock Unit, including a window-period limitation, as may be imposed in the sole discretion of the Board.

14. TERM AND TERMINATION

These terms and conditions shall enter into force on the Implementation Date and remain in force until close of business in Sweden on March 31, 2032. The parties shall, however, after such date continue to be bound by the provisions set out in clause 13.1.5 and 15.

15. GOVERNING LAW AND JURISDICTION

15.1.1 These terms and conditions shall be governed by and construed in accordance with the substantive law of Sweden (excluding its rules on conflict of laws).

15.1.2 The Company and the Holder undertake to use their best efforts to resolve any disagreements or disputes regarding these terms and conditions between them or any two or more of them through discussions and mutual agreement.

15.1.3 Any dispute, controversy or claim arising out of or in connection with these terms and conditions, or the breach, termination or invalidity thereof, shall be finally settled by arbitration in accordance with the Arbitration Rules of the Arbitration Institute of the Stockholm Chamber of Commerce. Unless otherwise agreed between the parties to such arbitration, the Arbitral Tribunal shall be composed of a sole arbitrator, the seat of arbitration shall be Stockholm and the language to be used in the arbitral proceedings shall be English.

15.1.4 The arbitral proceedings and all information and documentation related thereto shall be confidential, unless a disclosure is required under any applicable law, relevant stock exchange regulations or order of court, other tribunal or competition authority or as otherwise agreed between the Company and the Holder in writing.

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Exhibit 8.1

LIST OF SUBSIDIARIES

The following is a list of subsidiaries of Spotify Technology S.A. as of December 31, 2020:

Name of Subsidiary	Jurisdiction of Incorporation or Organization
Spotify AB	Sweden
Spotify USA Inc.	Delaware, United States of America
Spotify Ltd	United Kingdom
Spotify Spain S.L.	Spain
Spotify GmbH	Germany
Spotify France SAS	France
Spotify Netherlands B.V.	Netherlands
Spotify Canada Inc.	Canada
Spotify Australia Pty Ltd	Australia
Spotify Brasil Serviços De Música LTDA	Brazil
Spotify Japan K.K	Japan
Spotify India LLP	India
S Servicios de Música México, S.A. de C.V.	Mexico
Spotify Singapore Pte Ltd.	Singapore

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Exhibit 12.1

CERTIFICATIONS

I, Daniel Ek, certify that:

1. I have reviewed this annual report on Form 20-F of Spotify Technology S.A.;

2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;

3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the company as of, and for, the periods presented in this report;

4. The company's other certifying officer(s) and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) for the company and have:

(a) Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the company, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;

(b) Designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;

(c) Evaluated the effectiveness of the company's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and

(d) Disclosed in this report any change in the company's internal control over financial reporting that occurred during the period covered by the annual report that has materially affected, or is reasonably likely to materially affect, the company's internal control over financial reporting; and

5. The company's other certifying officer(s) and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the company's auditors and the audit committee of the company's board of directors (or persons performing the equivalent functions):

(a) All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the company's ability to record, process, summarize and report financial information; and

(b) Any fraud, whether or not material, that involves management or other employees who have a significant role in the company's internal control over financial reporting.

Date: February 5, 2021

/s/ Daniel Ek

Daniel Ek

Chief Executive Officer

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Exhibit 12.2

CERTIFICATIONS

I, Paul Vogel, certify that:

1. I have reviewed this annual report on Form 20-F of Spotify Technology S.A.;

2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;

3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the company as of, and for, the periods presented in this report;

4. The company's other certifying officer(s) and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) for the company and have:

(a) Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the company, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;

(b) Designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;

(c) Evaluated the effectiveness of the company's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and

(d) Disclosed in this report any change in the company's internal control over financial reporting that occurred during the period covered by the annual report that has materially affected, or is reasonably likely to materially affect, the company's internal control over financial reporting; and

5. The company's other certifying officer(s) and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the company's auditors and the audit committee of the company's board of directors (or persons performing the equivalent functions):

(a) All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the company's ability to record, process, summarize and report financial information; and

(b) Any fraud, whether or not material, that involves management or other employees who have a significant role in the company's internal control over financial reporting.

Date: February 5, 2021

/s/ Paul Vogel

Paul Vogel

Chief Financial Officer

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Exhibit 13.1

CERTIFICATION OF CHIEF EXECUTIVE OFFICER
UNDER SECTION 906 OF THE SARBANES-OXLEY
ACT OF 2002, 18 U.S.C. SECTION 1350

I, Daniel Ek, Chief Executive Officer of Spotify Technology S.A. (the "Company"), do hereby certify, pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002, that, to my knowledge:

(a) The Annual Report on Form 20-F of the Company for the year ended December 31, 2020, as filed with the Securities and Exchange Commission (the "Report"), fully complies with the requirements of Section 13(a) or 15(d) of the Securities Exchange Act of 1934, as amended; and

(b) The information contained in the Report fairly presents, in all material respects, the financial condition and results of operations of the Company.

Date: February 5, 2021

/s/ Daniel Ek

Daniel Ek

Chief Executive Officer

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Exhibit 13.2

CERTIFICATION OF CHIEF FINANCIAL OFFICER
UNDER SECTION 906 OF THE SARBANES-OXLEY
ACT OF 2002, 18 U.S.C. SECTION 1350

I, Paul Vogel, Chief Financial Officer of Spotify Technology S.A. (the "Company"), do hereby certify, pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002, that, to my knowledge:

(a) The Annual Report on Form 20-F of the Company for the year ended December 31, 2020, as filed with the Securities and Exchange Commission (the "Report"), fully complies with the requirements of Section 13(a) or 15(d) of the Securities Exchange Act of 1934, as amended; and

(b) The information contained in the Report fairly presents, in all material respects, the financial condition and results of operations of the Company.

Date: February 5, 2021

/s/ Paul Vogel

Paul Vogel

Chief Financial Officer

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Exhibit 15.1

Consent of Independent Registered Public Accounting Firm

We consent to the incorporation by reference in the following Registration Statements:

(1) Registration Statement (Form S-8 No. 333-237908) pertaining to the Terms and Conditions Governing Director Stock Options 2020/2025 in Spotify Technology S.A., and Terms and Conditions Governing Director Restricted Stock Units 2020/2025 in Spotify Technology S.A.,

(2) Registration Statement (Form S-8 No. 333-235746) pertaining to the Terms and Conditions Governing Employee Stock Options 2020/2025 in Spotify Technology S.A., Terms and Conditions Governing Employee Restricted Stock Units 2020/2025 in Spotify Technology S.A., Terms and Conditions Governing Stock Options for Consultants 2020/2025 in Spotify Technology S.A., and Terms and Conditions Governing Restricted Stock Units for Consultants 2020/2025 in Spotify Technology S.A.,

(3) Registration Statement (Form S-8 No. 333-231102) pertaining to the Terms and Conditions Governing Director Stock Options 2019/2023 in Spotify Technology S.A. and Terms and Conditions Governing Director Restricted Stock Units 2019/2023 in Spotify Technology S.A.,

(4) Registration Statement (Form S-8 No. 333-229623) pertaining to the Terms and Conditions Governing Employee Stock Options 2019/2024 in Spotify Technology S.A., Terms and Conditions Governing Employee Stock Options 2019/2024 Interim in Spotify Technology S.A., and Terms and Conditions Governing Restricted Stock Units 2019/2024 in Spotify Technology S.A., and

(5) Registration Statement (Form S-8 No. 333-223908) pertaining to the Terms and Conditions Governing Employee Stock Options 2014/2019 in Spotify Technology S.A., Terms and Conditions Governing Employee Stock Options 2015/2020 in Spotify Technology S.A., Terms and Conditions Governing Employee Stock Options 2016/2021 in Spotify Technology S.A., Terms and Conditions Governing Employee Stock Options 2017/2022 in Spotify Technology S.A., Terms and Conditions Governing Employee Stock Options 2018/2023 in Spotify Technology S.A., Terms and Conditions Governing Restricted Stock Units 2018/2023 in Spotify Technology S.A., Terms and Conditions Governing Director Restricted Stock Units 2018/2022 in Spotify Technology S.A., and The Echo Nest Corporation 2007 Stock Option and Grant Plan;

of our reports dated February 5, 2021, with respect to the consolidated financial statements of Spotify Technology S.A. and the effectiveness of internal control over financial reporting of Spotify Technology S.A. included in this Annual Report (Form 20-F) of Spotify Technology S.A. for the year ended December 31, 2020.

/s/ Ernst & Young AB
Stockholm, Sweden
February 5, 2021

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UNITED STATES
SECURITIES AND EXCHANGE COMMISSION

Washington, D.C. 20549

FORM 6-K

REPORT OF FOREIGN PRIVATE ISSUER
PURSUANT TO RULE 13a-16 OR 15d-16
UNDER THE SECURITIES EXCHANGE ACT OF 1934

For the month of April, 2021

Commission File Number: 001-38438

Spotify Technology S.A.

(Translation of registrant's name into English)

42-44, avenue de la Gare
L- 1610 Luxembourg
Grand Duchy of Luxembourg
(Address of principal executive office)

Indicate by check mark whether the registrant files or will file annual reports under cover of Form 20-F or Form 40-F.

Form 20-F ☒ Form 40-F ☐

Indicate by check mark if the registrant is submitting the Form 6-K in paper as permitted by Regulation S-T Rule 101(b)(1):

Yes ☐ No ☒

Indicate by check mark if the registrant is submitting the Form 6-K in paper as permitted by Regulation S-T Rule 101(b)(7):

Yes ☐ No ☒

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Spotify Technology S.A.

Interim condensed consolidated financial statements
For the three months ended March 31, 2021

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PART I - FINANCIAL INFORMATION

Item 1. Financial Statements

Interim condensed consolidated statement of operations
(Unaudited)
(in € millions, except share and per share data)

	Note	Three months ended March 31, 2021	2020
Revenue	5	2,147	1,848
Cost of revenue		1,599	1,376
Gross profit		**548**	**472**
Research and development		196	162
Sales and marketing		236	231
General and administrative		102	96
		534	**489**
Operating income/(loss)		**14**	**(17)**
Finance income	6	104	70
Finance costs	6	(31)	(12)
Finance income/(costs) - net		**73**	**58**
Income before tax		**87**	**41**
Income tax expense	7	64	40
Net income attributable to owners of the parent		**23**	**1**
Earnings per share attributable to owners of the parent			
Basic	8	0.12	0.00
Diluted	8	(0.25)	(0.20)
Weighted-average ordinary shares outstanding			
Basic	8	190,565,397	185,046,324
Diluted	8	191,815,695	185,632,113

The accompanying notes are an integral part of the interim condensed consolidated financial statements.

Interim condensed consolidated statement of comprehensive income/(loss)
(Unaudited)
(in € millions)

	Note	Three months ended March 31, 2021	2020
Net income attributable to owners of the parent		**23**	**1**
Other comprehensive income/(loss)			
Items that may be subsequently reclassified to condensed consolidated statement of operations (net of tax):			
Change in net unrealized gain or loss on short term investments	**15, 21**	(2)	3
Change in net unrealized gain or loss on cash flow hedging instruments	**15, 21**	(6)	11
Change in foreign currency translation adjustment		41	1
Items not to be subsequently reclassified to condensed consolidated statement of operations (net of tax):			
Gains/(losses) in the fair value of long term investments	**15, 21**	195	(155)
Other comprehensive income/(loss) for the period (net of tax)		**228**	**(140)**
Total comprehensive income/(loss) for the period attributable to owners of the parent		**251**	**(139)**

The accompanying notes are an integral part of the interim condensed consolidated financial statements.

Interim condensed consolidated statement of financial position
(in € millions)

	Note	March 31, 2021	December 31, 2020
		(Unaudited)	
Assets			
Non-current assets			
Lease right-of-use assets	**9**	452	444
Property and equipment	**10**	337	313
Goodwill	**11**	815	736
Intangible assets	**11**	98	97
Long term investments	**21**	2,522	2,277
Restricted cash and other non-current assets	**12**	82	78
Deferred tax assets	**7**	14	15
		4,320	**3,960**
Current assets			
Trade and other receivables	**13**	440	464
Income tax receivable		5	4
Short term investments	**21**	644	596
Cash and cash equivalents		2,442	1,151
Other current assets	**14**	186	151
		3,717	**2,366**
Total assets		**8,037**	**6,326**
Equity and liabilities			
Equity			
Share capital		—	—
Other paid in capital		4,630	4,583
Treasury shares	**15**	(171)	(175)
Other reserves	**15**	2,052	1,687
Accumulated deficit		(3,267)	(3,290)
Equity attributable to owners of the parent		**3,244**	**2,805**
Non-current liabilities			
Exchangeable Notes	**17, 21**	1,229	—
Lease liabilities	**9**	587	577
Accrued expenses and other liabilities	**19**	38	42
Provisions	**20**	3	2
		1,857	**621**
Current liabilities			
Trade and other payables	**18**	660	638
Income tax payable		12	9
Deferred revenue		424	380
Accrued expenses and other liabilities	**19**	1,715	1,748
Provisions	**20**	20	20
Derivative liabilities	**21**	105	105
		2,936	**2,900**
Total liabilities		**4,793**	**3,521**
Total equity and liabilities		**8,037**	**6,326**

The accompanying notes are an integral part of the interim condensed consolidated financial statements.

Interim condensed consolidated statement of changes in equity
(Unaudited)
(in € millions)

	Note	Share capital	Other paid in capital	Treasury Shares	Other reserves	Accumulated deficit	Equity attributable to owners of the parent
Balance at January 1, 2020		—	**4,192**	**(370)**	**924**	**(2,709)**	**2,037**
Income for the period		—	—	—	—	1	1
Other comprehensive loss		—	—	—	(140)	—	(140)
Issuance of shares upon exercise of stock options, restricted stock units, and contingently issuable shares	**15**	—	(113)	190	—	—	77
Restricted stock units withheld for employee taxes		—	—	—	(3)	—	(3)
Share-based compensation	**16**	—	—	—	39	—	39
Income tax impact associated with share-based compensation	**7**	—	—	—	2	—	2
Balance at March 31, 2020		**—**	**4,079**	**(180)**	**822**	**(2,708)**	**2,013**
Balance at January 1, 2021		**—**	**4,583**	**(175)**	**1,687**	**(3,290)**	**2,805**
Income for the period		—	—	—	—	23	23
Other comprehensive income		—	—	—	228	—	228
Issuance of shares upon exercise of stock options, restricted stock units, and contingently issuable shares	**15**	—	47	4	—	—	51
Restricted stock units withheld for employee taxes		—	—	—	(16)	—	(16)
Share-based compensation	**16**	—	—	—	49	—	49
Income tax impact associated with share-based compensation	**7**	—	—	—	104	—	104
Balance at March 31, 2021		**—**	**4,630**	**(171)**	**2,052**	**(3,267)**	**3,244**

The accompanying notes are an integral part of the interim condensed consolidated financial statements.

Interim condensed consolidated statement of cash flows
(Unaudited)
(in € millions)

	Note	Three months ended March 31, 2021	2020
Operating activities			
Net income		23	1
Adjustments to reconcile net income to net cash flows			
Depreciation of property and equipment and lease right-of-use assets	**9, 10**	22	21
Amortization of intangible assets	**11**	8	5
Share-based compensation expense	**16**	48	37
Finance income	**6**	(104)	(70)
Finance costs	**6**	31	12
Income tax expense	**7**	64	40
Other		2	4
Changes in working capital:			
Decrease in trade receivables and other assets		15	22
Decrease in trade and other liabilities		(67)	(63)
Increase/(decrease) in deferred revenue		37	(4)
Decrease in provisions	**20**	(1)	(1)
Interest paid on lease liabilities	**9**	(11)	(15)
Interest received		—	3
Income tax paid		(2)	(1)
Net cash flows from/(used in) operating activities		**65**	**(9)**
Investing activities			
Business combinations, net of cash acquired	**4**	(59)	(137)
Purchases of property and equipment	**10**	(24)	(12)
Purchases of short term investments	**21**	(115)	(498)
Sales and maturities of short term investments	**21**	90	477
Other		(6)	(14)
Net cash flows used in investing activities		**(114)**	**(184)**
Financing activities			
Payments of lease liabilities	**9**	(8)	(4)
Lease incentives received	**9**	—	7
Proceeds from exercise of stock options	**16**	51	77
Proceeds from issuance of Exchangeable Notes, net of costs	**17**	1,223	—
Other		(16)	(3)
Net cash flows from financing activities		**1,250**	**77**
Net increase/(decrease) in cash and cash equivalents		**1,201**	**(116)**
Cash and cash equivalents at beginning of the period		1,151	1,065
Net foreign exchange gains on cash and cash equivalents		90	2
Cash and cash equivalents at March 31		**2,442**	**951**
Supplemental disclosure of cash flow information			
Non-cash investing and financing activities			
Recognition of lease right-of-use asset in exchange for lease liabilities	**9**	6	12
Purchases of property and equipment in trade and other liabilities	**10**	16	13
Deferred consideration liability recognized in conjunction with business combination		—	32

The accompanying notes are an integral part of the interim condensed consolidated financial statements.

Notes to the interim condensed consolidated financial statements
(Unaudited)

1. Corporate information

Spotify Technology S.A. (the "Company" or "parent") is a public limited company incorporated and domiciled in Luxembourg. The Company's registered office is 42-44 avenue de la Gare, L-1610, Luxembourg, Grand Duchy of Luxembourg.

The principal activity of the Company and its subsidiaries (the "Group," "we," "us," or "our") is audio streaming. The Group's premium service ("Premium Service") provides users with unlimited online and offline high-quality streaming access to its catalog of music and podcasts. The Premium Service offers a music listening experience without commercial breaks. The Group's ad-supported service ("Ad-Supported Service," and together with the Premium Service, the "Service") has no subscription fees and provides users with limited on-demand online access to the catalog of music and unlimited online access to the catalog of podcasts. The Group depends on securing content licenses from a number of major and minor content owners and other rights holders in order to provide its service.

2. Basis of preparation and summary of significant accounting policies

The interim condensed consolidated financial statements of Spotify Technology S.A. for the three months ended March 31, 2021 and 2020 have been prepared in accordance with IAS 34 *Interim Financial Reporting*. The interim financial information is unaudited. The interim financial information reflects all normal recurring adjustments that are, in the opinion of management, necessary to fairly present the information set forth herein. The interim condensed consolidated financial statements should be read in conjunction with the Group's consolidated financial statements for the year ended December 31, 2020, as they do not include all the information and disclosures required in the annual consolidated financial statements. Interim results are not necessarily indicative of the results for a full year. The interim condensed consolidated financial statements are presented in millions of Euros.

New and amended standards and interpretations adopted by the Group

There are no new IFRS or IFRS Interpretation Committee (IFRIC) interpretations effective as of January 1, 2021 that have a material impact to the condensed consolidated financial statements for the three months ended March 31, 2021.

New standards and interpretations issued not yet effective

In January 2020, the International Accounting Standard Board (“IASB”) issued amendments to paragraphs 69 to 76 of IAS 1 *Presentation of Financial Statements* to specify the requirements for classifying liabilities as current or non-current, effective for annual reporting periods beginning on or after January 1, 2023. Although the Group is in the process of evaluating the impact of adoption on its condensed consolidated financial statements, the Group believes that the amendment would require the Group to reclassify the Exchangeable Notes (as defined below) as a current liability if the exchange conditions are met, even if no noteholder actually requires us to exchange their notes.

There are no other IFRS or IFRIC interpretations that are not yet effective that are expected to have a material impact on our condensed consolidated financial statements.

3. Critical accounting estimates and judgments

Except as noted below, in preparing these interim condensed consolidated financial statements, the significant judgments made by management in applying the Group's accounting policies and the key sources of estimation and uncertainty were the same as those applied to the consolidated financial statements for the year ended December 31, 2020.

On March 2, 2021, the Company’s wholly owned subsidiary, Spotify USA Inc., issued US$1,500 million aggregate principal amount of 0% Exchangeable Senior Notes due 2026 (the “Exchangeable Notes”). See Note 17 for additional information including the accounting policy for the Exchangeable Notes.

The fair value of the Exchangeable Notes is estimated using a combination of binomial option pricing model and prices observed for the Exchangeable Notes in an over-the-counter market on the last trading day of the reporting period. See Note 21 for information regarding the key inputs and assumptions used to estimate the fair value of the Exchangeable Notes.

Estimates and judgments are continually evaluated and are based on historical experience and other factors, including expectations of future events.

4. Business combinations

Betty Labs Incorporated

On March 29, 2021, the Group acquired 100% of Betty Labs Incorporated ("Betty Labs"), a technology and content creation company focused on creating groundbreaking live audio experiences. The acquisition allows the Group to accelerate its entry into the live audio space.

The fair value of the purchase consideration was €57 million in cash, paid at closing. The acquisition was accounted for under the acquisition method. Of the total purchase consideration, €52 million has been recorded to goodwill, €2 million to acquired intangible assets, €4 million to cash and cash equivalents, and €1 million to deferred tax liabilities.

The goodwill represents the future economic benefits expected to arise from other intangible assets acquired that do not qualify for separate recognition, including expected future synergies and technical expertise of the acquired workforce. None of the goodwill recognized is expected to be deductible for tax purposes. The goodwill was included in the Ad-Supported segment.

For the three months ended March 31, 2021, revenues and operating results of Betty Labs were not significant to the Group's condensed consolidated statement of operations.

The amount for business combinations, net of cash acquired, within the condensed consolidated statement of cash flows for the three months ended March 31, 2021 includes €6 million of investing cash outflows for deferred consideration of a previous business combination.

5. Segment information

The Group has two reportable segments: Premium and Ad-Supported. The Premium Service is a paid service in which customers can listen on-demand and offline. Revenue for the Premium segment is generated through subscription fees. The Ad-Supported Service is free to the user. Revenue for the Ad-Supported segment is primarily generated through the sale of advertising across the Group's music and podcast content. Royalty costs are primarily recorded in each segment based on specific rates for each segment agreed to with rights holders. All podcast content costs are recorded in the Ad-Supported segment. The remaining costs that are not specifically associated to either of the segments are allocated based on user activity or the revenue recognized in each segment. The operations of businesses acquired during 2021 and 2020 are included in the Ad-Supported segment. No operating segments have been aggregated to form the reportable segments.

Key financial performance measures of the segments including revenue, cost of revenue, and gross profit/(loss) are as follows:

	Three months ended March 31,	
	2021	2020
	(in € millions)	
Premium		
Revenue	1,931	1,700
Cost of revenue	1,393	1,219
Gross profit	**538**	**481**
Ad-Supported		
Revenue	216	148
Cost of revenue	206	157
Gross profit/(loss)	**10**	**(9)**
Consolidated		
Revenue	2,147	1,848
Cost of revenue	1,599	1,376
Gross profit	**548**	**472**

Reconciliation of gross profit

Operating expenses, finance income, and finance costs are not allocated to individual segments as these are managed on an overall Group basis. The reconciliation between reportable segment gross profit to the Group's income before tax is as follows:

	Three months ended March 31,	
	2021	2020
	(in € millions)	
Segment gross profit	**548**	**472**
Research and development	(196)	(162)
Sales and marketing	(236)	(231)
General and administrative	(102)	(96)
Finance income	104	70
Finance costs	(31)	(12)
Income before tax	**87**	**41**

Revenue by country

	Three months ended March 31,	
	2021	2020
	(in € millions)	
United States	792	681
United Kingdom	225	201
Luxembourg	1	1
Other countries	1,129	965
	2,147	**1,848**

Premium revenue is attributed to a country based on where the membership originates. Ad-Supported revenue is attributed to a country based on where the advertising campaign is delivered. There are no countries that individually make up greater than 10% of total revenue included in "Other countries."

6. Finance income and costs

	Three months ended March 31,	
	2021	2020
	(in € millions)	
Finance income		
Fair value movements on derivative liabilities (Note 21)	22	40
Fair value movements on Exchangeable Notes (Note 21)	49	—
Interest income	3	7
Other finance income	1	3
Foreign exchange gains	29	20
Total	**104**	**70**
Finance costs		
Interest expense on lease liabilities	(10)	(11)
Transaction costs in relation to issuance of Exchangeable Notes	(18)	—
Other finance costs	(3)	(1)
Total	**(31)**	**(12)**

7. Income tax

The effective tax rates for the three months ended March 31, 2021 and 2020 were 73.8% and 99.1%, respectively. The Group operates in a global environment with significant operations in various jurisdictions outside Luxembourg. Accordingly, the consolidated income tax rate is a composite rate reflecting the Group's earnings and the applicable tax rates in the various jurisdictions where the Group operates.

For the three months ended March 31, 2021, the income tax expense of €64 million was due primarily to reassessment of uncertain tax positions of €38 million arising from new information in the current quarter. In addition, current period share-based compensation deductions recognized in equity resulted in additional tax expense for the three months ended March 31, 2021. For the three months ended March 31, 2020, the income tax expense of €40 million was due primarily to the decrease in recognition of deferred taxes as a result of the unrealized decrease in the fair value of the Group's long term investment in Tencent Music Entertainment Group ("TME").

Transactions recorded through other comprehensive income have been shown net of their tax impact, as applicable, based on currently enacted tax laws.

We are subject to ongoing tax audits in several jurisdictions, and most of these audits involve transfer pricing issues. Tax authorities in certain jurisdictions have challenged our tax positions. We regularly assess the likely outcomes of these audits, taking into account any new information available, in order to determine the appropriateness of our tax reserves. If we conclude that it is not probable that our tax position will be accepted, the effect of that uncertainty is reflected at either the most likely amount or the expected value, taking into account a range of possible outcomes.

Tax provisions in the condensed consolidated statement of financial position were €10 million and €5 million as of March 31, 2021 and December 31, 2020, respectively. The increase in the quarter primarily reflects estimates of uncertain tax positions that have a gross impact of €38 million (before utilization of loss carry forwards). Interest and penalties included in income tax expense were not material in any of the periods presented. Due to the uncertainty associated with our tax positions, any future agreement with the tax authorities could have a significant impact on our results of operations, financial condition and cash flows.

Net deferred tax assets of €14 million and €15 million have been recorded in the condensed consolidated statement of financial position as of March 31, 2021 and December 31, 2020, respectively. In evaluating the probability of realizing the deferred tax assets, the Group considered all available positive and negative evidence of future tax profit, including past operating results and the forecast of market growth and earnings. As of March 31, 2021 and December 31, 2020, deferred tax assets of €395 million and €535 million have not been recognized.

8. Earnings/(loss) per share

Basic earnings per share is computed using the weighted-average number of outstanding ordinary shares during the period. Diluted loss per share is computed using the weighted-average number of outstanding ordinary shares and potential outstanding ordinary shares during the period. Potential ordinary shares, which are based on the weighted-average ordinary shares underlying outstanding stock options, restricted stock units, restricted stock awards, other contingently issuable shares, warrants, and Exchangeable Notes and computed using the treasury stock method or the if-converted method, as applicable, are included when calculating diluted earnings/(loss) per share when their effect is dilutive. The computation of earnings/(loss) per share for the respective periods is as follows:

	Three months ended March 31,	
	2021	2020
	(in € millions, except share and per share data)	
Basic earnings per share		
Net income attributable to owners of the parent	23	1
Shares used in computation:		
Weighted-average ordinary shares outstanding	190,565,397	185,046,324
Basic earnings per share attributable to owners of the parent	**0.12**	**0.00**
Diluted loss per share		
Net income attributable to owners of the parent	23	1
Fair value gains on dilutive warrants	(22)	(38)
Fair value gains on dilutive Exchangeable Notes	(49)	—
Net loss used in the computation of diluted loss per share	(48)	(37)
Shares used in computation:		
Weighted-average ordinary shares outstanding	190,565,397	185,046,324
Warrants	312,148	585,789
Exchangeable Notes	938,150	—
Diluted weighted-average ordinary shares	191,815,695	185,632,113
Diluted loss per share attributable to owners of the parent	**(0.25)**	**(0.20)**

Potential dilutive securities that were not included in the diluted loss per share calculations because they would be anti-dilutive were as follows:

	Three months ended March 31,	
	2021	2020
Stock options	9,355,458	11,540,227
Restricted stock units	1,514,918	1,267,421
Restricted stock awards	—	41,280
Other contingently issuable shares	131,708	156,190
Warrants	—	800,000

9. Leases

The Group leases certain properties under non-cancellable lease agreements that relate to office space. The expected lease terms are between one and fourteen years. The Group currently does not act in the capacity of a lessor.

Below is the roll-forward of lease right-of-use assets:

Right-of-use assets	
	(in € millions)
Cost	
At January 1, 2021	**581**
Increases	7
Exchange differences	17
Decreases	(2)
At March 31, 2021	**603**
Accumulated depreciation	
At January 1, 2021	**(137)**
Depreciation charge	(13)
Exchange differences	(3)
Decreases	2
At March 31, 2021	**(151)**
Cost, net accumulated depreciation	
At January 1, 2021	**444**
At March 31, 2021	**452**

Below is the roll-forward of lease liabilities:

Lease liabilities	**2021**	**2020**
	(in € millions)	
At January 1	**608**	**628**
Increases	6	12
Payments	(19)	(19)
Interest expense	10	11
Lease incentives received	—	7
Exchange differences	18	(2)
At March 31	**623**	**637**

Below is the maturity analysis of lease liabilities:

Lease liabilities	**March 31, 2021**
Maturity Analysis	**(in € millions)**
Less than one year	85
One to five years	342
More than five years	477
Total lease commitments	**904**
Impact of discounting remaining lease payments	(291)
Lease incentives receivable	10
Total lease liabilities	**623**
Lease liabilities included in the condensed consolidated statement of financial position	
Current	36
Non-current	587
Total	**623**

Excluded from the lease commitments above are short-term leases. Expenses relating to short term leases were approximately €2 million and €3 million for the three months ended March 31, 2021 and 2020, respectively. Additionally, the

Group has entered into certain lease agreements with approximately €25 million of commitments, which have not commenced as of March 31, 2021, and as such, have not been recognized in the condensed consolidated statement of financial position.

The weighted-average incremental borrowing rate applied to lease liabilities recognized in the condensed consolidated statement of financial position as of March 31, 2021 was 6.3%.

10. Property and equipment

	Property and equipment	Leasehold improvements	Total
		(in € millions)	
Cost			
At January 1, 2021	**56**	**346**	**402**
Increases	2	21	23
Exchange differences	1	12	13
At March 31, 2021	**59**	**379**	**438**
Accumulated depreciation			
At January 1, 2021	**(36)**	**(53)**	**(89)**
Depreciation charge	(2)	(7)	(9)
Exchange differences	(1)	(2)	(3)
At March 31, 2021	**(39)**	**(62)**	**(101)**
Cost, net accumulated depreciation			
At January 1, 2021	**20**	**293**	**313**
At March 31, 2021	**20**	**317**	**337**

The Group had €75 million and €59 million of leasehold improvements that were not placed into service as of March 31, 2021 and December 31, 2020, respectively.

11. Goodwill and intangible assets

	Internal development costs and patents	Acquired intangible assets	Total	Goodwill	Total
			(in € millions)		
Cost					
At January 1, 2021	**64**	**91**	**155**	**736**	**891**
Additions	5	—	5	—	5
Acquisition, business combination (Note 4)	—	2	2	52	54
Exchange differences	—	3	3	27	30
At March 31, 2021	**69**	**96**	**165**	**815**	**980**
Accumulated amortization					
At January 1, 2021	**(31)**	**(27)**	**(58)**	**—**	**(58)**
Amortization charge	(4)	(4)	(8)	—	(8)
Exchange differences	—	(1)	(1)	—	(1)
At March 31, 2021	**(35)**	**(32)**	**(67)**	**—**	**(67)**
Cost, net accumulated amortization					
At January 1, 2021	**33**	**64**	**97**	**736**	**833**
At March 31, 2021	**34**	**64**	**98**	**815**	**913**

Amortization charges related to intangible assets of €6 million and €4 million are included in research and development in the condensed consolidated statement of operations during the three months ended March 31, 2021 and 2020, respectively. There were no impairment charges for goodwill or intangible assets for the three months ended March 31, 2021 and 2020.

12. Restricted cash and other non-current assets

	March 31, 2021	December 31, 2020
	(in € millions)	
Restricted cash		
Lease deposits and guarantees	50	48
Other	1	1
Other non-current assets	31	29
	82	**78**

13. Trade and other receivables

	March 31, 2021	December 31, 2020
	(in € millions)	
Trade receivables	314	323
Less: allowance for expected credit losses	(4)	(4)
Trade receivables - net	310	319
Other	130	145
	440	**464**

14. Other current assets

	March 31, 2021	December 31, 2020
	(in € millions)	
Content assets	107	92
Prepaid expenses and other	52	47
Derivative assets	27	12
	186	**151**

Content asset amortization of €23 million and €7 million is included in cost of revenue in the condensed consolidated statement of operations for the three months ended March 31, 2021 and 2020, respectively.

15. Equity and other reserves

As of both March 31, 2021 and December 31, 2020, the Company had 193,614,910 ordinary shares issued and fully paid, with 2,636,467 and 3,402,063 ordinary shares held as treasury shares, respectively.

For the three months ended March 31, 2021, the Company did not repurchase any of its own ordinary shares and reissued 765,596 treasury shares upon the exercise of stock options, restricted stock units, and contingently issuable shares. For the three months ended March 31, 2020, the Company did not repurchase any of its own ordinary shares and reissued 1,628,642 treasury shares upon the exercise of stock options, restricted stock units, and contingently issuable shares.

As of March 31, 2021 and December 31, 2020, the Group's founders held 361,114,840 and 365,014,840 beneficiary certificates, respectively.

Other reserves

	2021	2020
	(in € millions)	
Currency translation		
At January 1	**(54)**	**(11)**
Currency translation	41	1
At March 31	**(13)**	**(10)**
Short term investments		
At January 1	**5**	**1**
(Losses)/gains on fair value that may be subsequently reclassified to condensed consolidated statement of operations	(2)	5
Gains reclassified to condensed consolidated statement of operations	(1)	(1)
Deferred tax	1	(1)
At March 31	**3**	**4**
Long term investments		
At January 1	**1,059**	**444**
Gains/(losses) on fair value not to be subsequently reclassified to condensed consolidated statement of operations	245	(194)
Deferred tax	(50)	39
At March 31	**1,254**	**289**
Cash flow hedges		
At January 1	**(3)**	**(4)**
(Losses)/gains on fair value that may be subsequently reclassified to condensed consolidated statement of operations	(8)	14
Losses/(gains) reclassified to revenue	12	(1)
(Gains)/losses reclassified to cost of revenue	(11)	1
Deferred tax	1	(3)
At March 31	**(9)**	**7**
Share-based compensation		
At January 1	**680**	**494**
Share-based compensation	49	39
Income tax impact associated with share-based compensation	104	2
Restricted stock units withheld for employee taxes	(16)	(3)
At March 31	**817**	**532**
Other reserves at March 31	**2,052**	**822**

16. Share-based compensation

The expense recognized in the condensed consolidated statement of operations for share-based compensation is as follows:

	Three months ended March 31,	
	2021	2020
	(in € millions)	
Cost of revenue	2	1
Research and development	24	18
Sales and marketing	9	7
General and administrative	13	11
	48	**37**

Activity in the Group's RSUs and other contingently issuable shares outstanding and related information is as follows:

	RSUs		Other	
	Number of RSUs	Weighted average grant date fair value	Number of Awards	Weighted average grant date fair value
		US$		US$
Outstanding at January 1, 2021	**1,320,193**	**155.98**	**156,190**	**145.19**
Granted	326,228	321.34	22,988	261.00
Forfeited	(19,174)	174.40	—	—
Released	(112,329)	155.41	(47,470)	145.20
Outstanding at March 31, 2021	**1,514,918**	**191.40**	**131,708**	**165.41**

In the table above, the number of RSUs and other contingently issuable shares released include ordinary shares that the Group has withheld for settlement of employees' tax obligations due upon the vesting of RSUs and other contingently issuable shares.

Activity in the Group's stock options outstanding and related information is as follows:

	Options	
	Number of options	Weighted average exercise price
		US$
Outstanding at January 1, 2021	**9,041,288**	**138.60**
Granted	1,056,187	358.48
Forfeited	(73,071)	165.58
Exercised	(666,656)	92.95
Expired	(2,290)	161.66
Outstanding at March 31, 2021	**9,355,458**	**166.46**
Exercisable at January 1, 2021	**4,022,751**	**113.91**
Exercisable at March 31, 2021	**4,024,397**	**122.41**

The weighted-average contractual life for the stock options outstanding at March 31, 2021 was 3.0 years. The weighted average share price at exercise for options exercised during the three months ended March 31, 2021 was US$326.13. The weighted average fair value of options granted during the three months ended March 31, 2021 was US$88.44 per option.

The following table lists the inputs to the Black-Scholes option-pricing models used for share-based compensation for the three months ended March 31, 2021 and 2020:

	Three months ended March 31,	
	2021	2020
Expected volatility (%)	34.1 - 42.6	30.0 - 33.4
Risk-free interest rate (%)	0.2 - 0.7	0.9 - 1.7
Expected life of stock options (years)	2.6 - 4.8	2.6 - 4.8
Weighted average share price (US$)	321.40	138.15

17. Exchangeable Notes

On March 2, 2021, the Company’s wholly owned subsidiary, Spotify USA Inc. (the “Issuer”), issued US$1,500 million aggregate principal amount of 0% Exchangeable Notes due 2026, which included the initial purchasers’ exercise in full of their option to purchase an additional US$200 million principal amount of the Exchangeable Notes. The Exchangeable Notes

will mature on March 15, 2026, unless earlier repurchased, redeemed or exchanged. The Exchangeable Notes are fully and unconditionally guaranteed, on a senior, unsecured basis by the Company.

The net proceeds from the issuance of the Exchangeable Notes were €1,223 million after deducting transaction costs of €18 million. The transaction costs were immediately expensed and included in finance costs in the condensed consolidated statement of operations for the three months ended March 31, 2021.

The Exchangeable Notes are the Issuer's senior unsecured obligations and are equal in right of payment with the Issuer's future senior, unsecured indebtedness, senior in right of payment to the Issuer's future indebtedness that is expressly subordinated to the Exchangeable Notes and effectively subordinated to the Issuer's future secured indebtedness, to the extent of the value of the collateral securing that indebtedness. The Exchangeable Notes will be structurally subordinated to all future indebtedness and other liabilities, including trade payables, and (to the extent the Issuer is not a holder thereof) preferred equity, if any, of the Issuer's subsidiaries.

The noteholders may exchange their Exchangeable Notes at their option into consideration that consists, at the Issuer's election, of cash, ordinary shares of the Company, or a combination of cash and ordinary shares, but only in the following circumstances:

(1) during any calendar quarter commencing after the calendar quarter ending on June 30, 2021, if the last reported sale price per ordinary share exceeds 130% of the exchange price for each of at least 20 trading days during the 30 consecutive trading days ending on, and including, the last trading day of the immediately preceding calendar quarter;

(2) during the five consecutive business days immediately after any 10 consecutive trading day period (such 10 consecutive trading day period, the "measurement period") in which the trading price per $1,000 principal amount of Exchangeable Notes for each trading day of the measurement period was less than 98% of the product of the last reported sale price per ordinary share on such trading day and the exchange rate on such trading day;

(3) upon the occurrence of certain corporate events or distributions on the ordinary shares as set forth in the indenture governing the Exchangeable Notes (the "Indenture");

(4) if the Issuer calls such Exchangeable Notes for redemption; and

(5) at any time from, and including, December 15, 2025 until the close of business on the second scheduled trading day immediately before the maturity date.

The initial exchange rate is 1.9410 ordinary shares per US$1,000 principal amount of Exchangeable Notes, which represents an initial exchange price of approximately US$515.20 per ordinary share. The exchange rate and exchange price will be subject to customary adjustments upon the occurrence of certain events as set forth in the Indenture. In addition, if certain corporate events that constitute a make-whole fundamental change occur as set forth in the Indenture, then the exchange rate will, in certain circumstances, be increased for a specified period of time.

The circumstances required to allow the noteholders to exchange their Exchangeable Notes were not met during the three months ended March 31, 2021.

The Exchangeable Notes will not be redeemable prior to March 20, 2024, except in the event of certain tax law changes as set forth in the Indenture. The Exchangeable Notes will be redeemable, in whole or in part, at the Issuer's option at any time, and from time to time, on or after March 20, 2024 and on or before the 40th scheduled trading day immediately before the maturity date, at a cash redemption price equal to the principal amount of the Exchangeable Notes to be redeemed, plus accrued and unpaid special and additional interest, if any, but only if the last reported sale price per ordinary share exceeds 130% of the exchange price on:

(1) each of at least 20 trading days, whether or not consecutive, during the 30 consecutive trading days ending on, and including, the trading day immediately before the date the Issuer sends the related redemption notice; and

(2) the trading day immediately before the date the Issuer sends such notice.

In addition, the Issuer will have the right to redeem all, but not less than all, of the Exchangeable Notes if certain changes in tax law as set forth in the Indenture occur. In addition, calling any Exchangeable Note for redemption will constitute a make-whole fundamental change with respect to that Exchangeable Note, in which case the exchange rate applicable to the

exchange of that Exchangeable Note will be increased in certain circumstances if it is exchanged after it is called for redemption.

Upon the occurrence of a "fundamental change" as set forth in the Indenture, noteholders may require the Issuer to repurchase their Exchangeable Notes at a cash repurchase price equal to the principal amount of the Exchangeable Notes to be repurchased, plus accrued and unpaid special and additional interest, if any, to, but excluding, the fundamental change repurchase date as set forth in the Indenture.

The Group accounted for the Exchangeable Notes at fair value through profit and loss using the fair value option in accordance with IFRS 9, *Financial Instruments*. Under this approach, the Exchangeable Notes are accounted for in their entirety at fair value, with any change in fair value after initial measurement being recorded in finance income or cost in condensed consolidated statement of operations, except that changes in fair value that are due to changes in own credit risk are presented separately in other comprehensive income and will not be reclassified to the condensed consolidated statement of operations.

The fair value of the Exchangeable Notes as of March 31, 2021 was €1,229 million. See Note 21 for information regarding the key inputs and assumptions used to estimate the fair value of the Exchangeable Notes.

18. Trade and other payables

	March 31, 2021	December 31, 2020
	(in € millions)	
Trade payables	440	434
Value added tax and sales taxes payable	196	181
Other current liabilities	24	23
	660	**638**

19. Accrued expenses and other liabilities

	March 31, 2021	December 31, 2020
	(in € millions)	
Non-current		
Other accrued liabilities	38	42
	38	**42**
Current		
Accrued fees to rights holders	1,292	1,265
Accrued salaries, vacation, and related taxes	69	65
Accrued social costs for options and RSUs	129	169
Other accrued expenses	225	249
	1,715	**1,748**

20. Provisions

	Legal contingencies	Indirect tax	Other	Total
		(in € millions)		
Carrying amount at January 1, 2021	**4**	**11**	**7**	**22**
Charged/(credited) to the condensed statement of operations:				
Additional provisions	—	—	1	1
Reversal of unutilized amounts	—	—	(1)	(1)
Carrying amount at March 31, 2021	**4**	**11**	**7**	**22**
As at January 1, 2021				
Current portion	**4**	**11**	**5**	**20**
Non-current portion	—	—	**2**	**2**
As at March 31, 2021				
Current portion	**4**	**11**	**4**	**19**
Non-current portion	—	—	**3**	**3**

Various legal actions, proceedings, and claims are pending or may be instituted or asserted against the Group. The results of such legal proceedings are difficult to predict and the extent of the Group's financial exposure is difficult to estimate. The Group records a provision for contingent losses when it is both probable that a liability has been incurred, and the amount of the loss can be reasonably estimated.

21. Financial instruments

Foreign exchange forward contracts

Cash flow hedges

The Group's currency pairs used for cash flow hedges are Euro / U.S. dollar, Euro / Australian dollar, Euro / British pound, Euro / Swedish krona, Euro / Canadian dollar, and Euro / Norwegian krone. The notional principal of foreign exchange contracts hedging the revenue and cost of revenue line items in the condensed consolidated statement of operations was approximately €1,076 million and €762 million, respectively, as of March 31, 2021, and approximately €993 million and €703 million, respectively, as of December 31, 2020.

Fair values

The carrying amounts of certain financial instruments, including cash and cash equivalents, trade and other receivables, restricted cash, trade and other payables, and accrued expenses and other liabilities approximate fair value due to their relatively short maturities. All other financial assets and liabilities are accounted for at fair value.

The following tables summarize, by major security type, the Group's financial assets and liabilities that are measured at fair value on a recurring basis, and the category using the fair value hierarchy:

	Quoted Prices in Active Markets for Identical Assets (Level 1)	Significant Other Observable Inputs (Level 2)	Significant unobservable Inputs (Level 3)	March 31, 2021
		(in € millions)		
Financial assets at fair value				
Cash equivalents:				
Money market funds	1,989	—	—	1,989
Short term investments:				
Money market funds	25	—	—	25
Government securities	206	27	—	233
Agency securities	—	4	—	4
Corporate notes	—	275	—	275
Collateralized reverse purchase agreements	—	107	—	107
Derivatives (designated for hedging):				
Foreign exchange forwards	—	27	—	27
Long term investments	2,471	—	51	2,522
Total financial assets at fair value	**4,691**	**440**	**51**	**5,182**
Financial liabilities at fair value				
Exchangeable Notes	—	—	1,229	1,229
Derivatives (not designated for hedging):				
Warrants	—	—	67	67
Derivatives (designated for hedging):				
Foreign exchange forwards	—	38	—	38
Contingent consideration	—	—	33	33
Total financial liabilities at fair value	**—**	**38**	**1,329**	**1,367**

	Quoted Prices in Active Markets for Identical Assets (Level 1)	Significant Other Observable Inputs (Level 2)	Significant unobservable Inputs (Level 3)	December 31, 2020
		(in € millions)		
Financial assets at fair value				
Cash equivalents:				
Money market funds	685	—	—	685
Short term investments:				
Money market funds	25	—	—	25
Government securities	198	31	—	229
Agency securities	—	4	—	4
Corporate notes	—	276	—	276
Collateralized reverse purchase agreements	—	62	—	62
Derivatives (designated for hedging):				
Foreign exchange forwards	—	12	—	12
Long term investments	2,228	—	49	2,277
Total financial assets at fair value	**3,136**	**385**	**49**	**3,570**
Financial liabilities at fair value				
Derivatives (not designated for hedging):				
Warrants	—	—	89	89
Derivatives (designated for hedging):				
Foreign exchange forwards	—	16	—	16
Contingent consideration	—	—	30	30
Total financial liabilities at fair value	**—**	**16**	**119**	**135**

The Group's policy is to recognize transfers into and transfers out of fair value hierarchy levels at the end of each reporting period. During the three months ended March 31, 2021, there were no transfers between levels in the fair value hierarchy.

Recurring fair value measurements

Long term investment - Tencent Music Entertainment Group

The Group's approximate 8% investment in TME is carried at fair value through other comprehensive income. The fair value of ordinary shares of TME is based on the ending New York Stock Exchange American depository share price. The fair value of the investment in TME may vary over time and is subject to a variety of risks including: company performance, macro-economic, regulatory, industry, USD to Euro exchange rate and systemic risks of the equity markets overall.

The table below presents the changes in the investment in TME:

	2021	2020
	(in € millions)	
At January 1	**2,228**	**1,481**
Changes in fair value recorded in other comprehensive income	243	(191)
At March 31	**2,471**	**1,290**

The impact on the fair value of the Group's long term investment in TME with a decrease or increase of TME's share price used to value the Group's equity interests of 10% results in a range of €2,224 million to €2,718 million at March 31, 2021.

The following sections describe the valuation methodologies the Group uses to measure its Level 3 financial instruments at fair value on a recurring basis.

Long term investments - Other

The Group has interests in certain long term investments. The majority of these investments are in unlisted equity securities carried at fair value through other comprehensive income. The fair value of these equity investments are generally determined by (i) applying market multiples to the projected financial performance and (ii) discounting the future value to its present value equivalent. The key assumptions used to estimate the fair value of these equity investments include the exit multiple used to estimate business enterprise value and discount rate.

The fair value of the long term investments may vary over time and is subject to a variety of risks including: company performance, macroeconomic, regulatory, industry, USD to Euro exchange rate, and systemic risks of the overall equity markets.

The table below presents the changes in the other long term investments:

	2021	2020
	(in € millions)	
At January 1	**49**	**16**
Initial recognition of long term investment	—	9
Changes in fair value recorded in other comprehensive income	2	(3)
Changes in fair value recognized in profit or loss	(1)	—
Effect of changes in foreign exchange rates	1	—
At March 31	**51**	**22**

Warrants

As of March 31, 2021 and December 31, 2020, the number of outstanding warrants was 800,000.

The outstanding warrants are valued using a Black-Scholes option-pricing model. Assumptions used to estimate the fair value of the warrants in the option pricing model are as follows:

	March 31, 2021
Expected term (years)	1.3
Risk free rate (%)	0.1
Volatility (%)	55.0
Share price (US$)	267.95

The table below presents the changes in the warrants liability:

	2021	2020
	(in € millions)	
At January 1	**89**	**98**
Non-cash changes recognized in condensed consolidated statement of operations		
Changes in fair value	(25)	(41)
Effect of changes in foreign exchange rates	3	1
At March 31	**67**	**58**

The impact on the fair value of the outstanding warrants with a decrease or increase in the Company's ordinary share price of 10% results in a range of €53 million to €81 million at March 31, 2021.

Contingent consideration

On April 1, 2019, the Group acquired Cutler Media, LLC ("Parcast"), a premier storytelling podcast studio. Included in the purchase price was €13 million related to the estimated fair value of contingent consideration. The contingent consideration is valued by the Group using a simulation of user engagement outcomes. The change in the fair value of the contingent consideration is recognized within general and administrative expenses in the condensed consolidated statement of operations.

The table below presents the changes in the contingent consideration liability:

	2021	2020
	(in € millions)	
At January 1	**30**	**27**
Non-cash changes recognized in condensed consolidated statement of operations		
Changes in fair value	1	(1)
Effect of changes in foreign exchange rates	2	—
At March 31	**33**	**26**

As of March 31, 2021, the remaining maximum potential contingent consideration payout is €34 million over the next two years.

Exchangeable Notes

On March 2, 2021, Spotify USA, Inc. issued US$1,500 million principal amount of 0% Exchangeable Notes due in 2026. The Exchangeable Notes are measured on a recurring basis in the condensed consolidated statement of financial position and are Level 3 financial instruments recognized at fair value through the condensed consolidated statement of operations.

The table below presents the changes in the Exchangeable Notes:

	2021
	(in € millions)
At January 1	—
Initial recognition	1,232
Changes in fair value recognized in condensed consolidated statement of operations	(49)
Effect of changes in foreign exchange rates	46
At March 31	**1,229**

The change in estimated fair value is recognized within finance income/(costs) in the condensed consolidated statement of operations, excluding changes in fair value due to changes in the Group's own credit risk, which are recognized in other comprehensive income and will not be reclassified to the condensed consolidated statement of operations.

The fair value of the Exchangeable Notes were estimated using a combination of a binomial option pricing model and prices observed for the Exchangeable Notes in an over-the-counter market on the last trading day of the reporting period. A weight of 75% was applied to the binomial option pricing model and a weight of 25% was applied to the price of the Exchangeable Notes in the over-the-counter market on the last trading day of the reporting period. The key assumptions used in the binomial option pricing model for the Exchangeable Notes were as follows:

	March 31, 2021
Risk free rate (%)	0.9
Discount rate (%)	3.7
Volatility (%)	45.0
Share price (US$)	267.95

The impact on the fair value of the Exchangeable Notes of using reasonably possible alternative assumptions with a decrease or increase in volatility of 10% results in a range of €1,193 million to €1,273 million at March 31, 2021. The impact

on the fair value of the Exchangeable Notes of using reasonably possible alternative assumptions with a decrease or increase in share price of 10% results in a range of €1,205 million to €1,256 million at March 31, 2021.

22. Commitments and contingencies

Commitments

The Group is subject to the following minimum guarantees relating to the content on its Service, the majority of which relate to minimum royalty payments associated with its license agreements for the use of licensed content:

	March 31, 2021	December 31, 2020
	(in € millions)	
Not later than one year	424	317
Later than one year but not more than 5 years	3,079	3,259
	3,503	**3,576**

In addition, the Group is subject to the following various non-cancelable purchase obligations and service agreements with minimum spend commitments, including a service agreement with Google for the use of Google Cloud Platform and certain podcast commitments:

	March 31, 2021	December 31, 2020
	(in € millions)	
Not later than one year	243	279
Later than one year but not more than 5 years	689	619
	932	**898**

Contingencies

Various legal actions, proceedings, and claims are pending or may be instituted or asserted against the Group. These may include, but are not limited to, matters arising out of alleged infringement of intellectual property; alleged violations of consumer regulations; employment-related matters; and disputes arising out of supplier and other contractual relationships. As a general matter, the music and other content made available on the Group's Service are licensed to the Group by various third parties. Many of these licenses allow rights holders to audit the Group's royalty payments, and any such audit could result in disputes over whether the Group has paid the proper royalties. If such a dispute were to occur, the Group could be required to pay additional royalties, and the amounts involved could be material. The Group expenses legal fees as incurred. The Group records a provision for contingent losses when it is both probable that a liability has been incurred and the amount of the loss can be reasonably estimated. An unfavorable outcome to any legal matter, if material, could have an adverse effect on the Group's operations or its financial position, liquidity, or results of operations.

As of April 2019, the Group's settlement of the *Ferrick et al. v. Spotify USA Inc.*, No. 1:16-cv-8412-AJN (S.D.N.Y.), putative class action lawsuit, which alleged that the Group unlawfully reproduced and distributed musical compositions without obtaining licenses, was final and effective. Even with the effectiveness of the settlement, we may still be subject to claims of copyright infringement by rights holders who have purported to opt out of the settlement or who may not otherwise be covered by its terms. The Music Modernization Act of 2018 contains a limitation of liability with respect to such lawsuits filed on or after January 1, 2018. Rights holders may, nevertheless, file lawsuits, and may argue that they should not be bound by this limitation of liability. For example, in August 2019, the *Eight Mile Style, LLC et al v. Spotify USA Inc.*, No. 3:19-cv-00736-AAT, lawsuit was filed against us in the U.S. District Court for the Middle District of Tennessee, alleging both that the Group does not qualify for the limitation of liability in the Music Modernization Act and that the limitation of liability is unconstitutional and, thus, not valid law. The Group intends to vigorously defend this lawsuit, including plaintiffs' challenges to the limitation of liability in the Music Modernization Act.

On August 11, 2020, the United States Court of Appeals for the D.C. Circuit issued an opinion which, as of the issuance of the formal “mandate” on October 26, 2020, vacated the Copyright Royalty Board’s determination of the royalty rates for applicable mechanical rights in the United States for calendar years 2018 to 2022. These rates apply both to compositions that we license under compulsory license in Section 115 of the Copyright Act of 1976 and to a number of direct licenses that we have with music publishers. Until the rates are determined, our recorded royalty costs both retrospectively and

prospectively will be based on management estimates of the rates that will apply. When the rates are determined anew, these could either benefit or adversely affect our results of operations and financial condition.

23. Events after the reporting period

Subsequent to the end of the reporting period, the Company issued 1,000,000 ordinary shares to its Netherlands subsidiary at par value and subsequently repurchased those shares at the same price. These shares are held in treasury in order to facilitate the fulfillment of option exercises and RSU releases under the Company's stock option and RSU plans.

Subsequent to the end of the reporting period, the Group signed license agreements with certain music labels, publishers and podcast agreements with creators. Included in these agreements are minimum guarantee and spend commitments of approximately €159 million over the next three years.

During our 2021 annual general meeting on April 21, 2021, shareholders and holders of beneficiary certificates authorized our Board of Directors to repurchase 10,000,000 ordinary shares issued by the Company during a period of five years, for a price that will be determined by the Board of Directors within the following limits: at least the par value and at the most the fair market value.

Item 2. Management's Discussion and Analysis of Financial Condition and Results of Operations

Special Note Regarding Forward-Looking Statements

This discussion and analysis reflects our historical results of operations and financial position and contains estimates and forward-looking statements. All statements other than statements of historical fact are forward-looking statements. The words "may," "might," "will," "could," "would," "should," "expect," "plan," "anticipate," "intend," "seek," "believe," "estimate," "predict," "potential," "continue," "contemplate," "possible," and similar words are intended to identify estimates and forward-looking statements.

Our estimates and forward-looking statements are mainly based on our current expectations and estimates of future events and trends, which affect or may affect our businesses and operations. Although we believe that these estimates and forward-looking statements are based upon reasonable assumptions, they are subject to numerous risks and uncertainties and are made in light of information currently available to us. Many important factors may adversely affect our results as indicated in forward-looking statements. These factors include, but are not limited to:

- our ability to attract prospective users and to retain existing users;
- competition for users, user listening time, and advertisers;
- risks associated with our international expansion and our ability to manage our growth;
- our ability to predict, recommend, and play content that our users enjoy;
- our ability to effectively monetize our Service;
- our ability to generate sufficient revenue to be profitable or to generate positive cash flow and grow on a sustained basis;
- risks associated with the expansion of our operations to deliver non-music content, including podcasts, including increased business, legal, financial, reputational, and competitive risks;
- potential disputes or liabilities associated with content made available on our Service;
- risks relating to the acquisition, investment, and disposition of companies or technologies;
- our dependence upon third-party licenses for most of the content we stream;
- our lack of control over the providers of our content and their effect on our access to music and other content;
- our ability to comply with the many complex license agreements to which we are a party;
- our ability to accurately estimate the amounts payable under our license agreements;
- the limitations on our operating flexibility due to the minimum guarantees required under certain of our license agreements;
- our ability to obtain accurate and comprehensive information about the compositions embodied in sound recordings in order to obtain necessary licenses or perform obligations under our existing license agreements;
- new copyright legislation and related regulations that may increase the cost and/or difficulty of music licensing;
- assertions by third parties of infringement or other violations by us of their intellectual property rights;
- our ability to protect our intellectual property;
- the dependence of streaming on operating systems, online platforms, hardware, networks, regulations, and standards that we do not control;
- potential breaches of our security systems;
- interruptions, delays, or discontinuations in service in our systems or systems of third parties;
- changes in laws or regulations affecting us;
- risks relating to privacy and protection of user data;
- our ability to maintain, protect, and enhance our brand;
- payment-related risks;
- ability to hire and retain key personnel;
- our ability to accurately estimate our user metrics and other estimates;
- risks associated with manipulation of stream counts and user accounts and unauthorized access to our services;
- tax-related risks;
- the concentration of voting power among our founders who have and will continue to have substantial control over our business;
- risks related to our status as a foreign private issuer;
- international, national or local economic, social or political conditions;
- risks associated with accounting estimates, currency fluctuations and foreign exchange controls;
- the impact of the COVID-19 pandemic on our business and operations, including any adverse impact on advertising sales or subscriber revenue;

- risks related to our debt, including limitations on our cash flow for operations and our ability to satisfy our obligations under the Exchangeable Notes;
- our ability to raise the funds necessary to repurchase the Exchangeable Notes for cash, under certain circumstances, or to pay any cash amounts due upon exchange;
- provisions in the indenture governing the Exchangeable Notes (the “Indenture”) delaying or preventing an otherwise beneficial takeover of us; and
- any adverse impact on our reported financial condition and results from the accounting methods for the Exchangeable Notes.

We operate in an evolving environment. New risk factors and uncertainties emerge from time to time, and it is not possible for our management to predict all risk factors and uncertainties, nor are we able to assess the impact of all of these risk factors on our business or the extent to which any risk factor, or combination of risk factors, may cause actual results to differ materially from those contained in any forward-looking statements.

We qualify all of our forward-looking statements by these cautionary statements. For additional information, refer to the risk factors discussed under Part II, Item 1A. "Risk Factors" below, Item 3.D. "Risk Factors" in our Annual Report on Form 20-F for the year ended December 31, 2020 ("Annual Report on Form 20-F"), and in our other filings with the U.S. Securities and Exchange Commission ("SEC").

You should read this discussion and analysis completely and with the understanding that our actual future results may be materially different from our expectations.

Investors and others should note that we announce material financial information to our investors using our Investors website (investors.spotify.com), SEC filings, press releases, public conference calls, and webcasts. We use these channels, as well as social media, to communicate with our users and the public about our company, our Services, and other issues. It is possible that the information we post on these channels could be deemed to be material information. Therefore, we encourage investors, the media, and others interested in our Company to review the information we post on the channels listed on our Investors website.

Overview

Our mission is to unlock the potential of human creativity by giving a million creative artists the opportunity to live off their art and billions of fans the opportunity to enjoy and be inspired by these creators.

We are the most popular global audio streaming subscription service with a presence in 178 countries and territories and growing, including our February 2021 launch in South Korea and 85 other countries and territories across Asia, Africa, the Caribbean, Europe, and Latin America. Our platform includes 356 million monthly active users ("MAUs") and 158 million Premium Subscribers (as defined below) as of March 31, 2021.

We currently monetize our Service through both subscriptions and advertising. Our Premium Subscribers have grown 21% year-over-year, as of March 31, 2021, to 158 million. Our 356 million MAUs have grown 24% year-over-year, as of March 31, 2021.

Our results reflect the effects of our bi-annual trial programs, both discounted and free trials, in addition to seasonal trends in user behavior and, with respect to our Ad-Supported segment, advertising behavior. Historically, Premium Subscriber growth accelerates when we run bi-annual trial programs in the summer and winter, which typically begin in the middle of the second and fourth quarters.

For our Ad-Supported segment, typically we experience higher advertising revenue in the fourth quarter of each calendar year due to greater advertising demand during the holiday season. However, in the first quarter of each calendar year, we typically experience a seasonal decline in advertising revenue due to reduced advertiser demand.

Acquisition

On March 29, 2021, we acquired Betty Labs for a total purchase consideration of €57 million. The acquisition allows us to accelerate our entry into the live audio space.

Exchangeable Notes

On March 2, 2021, Spotify USA Inc. issued US$1,500 million in aggregate principal amount of 0% Exchangeable Notes due 2026. Net proceeds from the issuance of the Exchangeable Notes were €1,223 million after deducting the transaction costs. We intend to use the net proceeds for general corporate purposes. See Note 17 to our interim condensed consolidated financial statements for further information regarding our Exchangeable Notes.

Employee Matters

During and subsequent to the end of the reporting period, we entered into collective bargaining agreements with the employees of Ringer.com LLC and Gimlet LLC, respectively, representing approximately 115 employees. As of March 31, 2021, we are in the process of negotiating a collective bargaining agreement with approximately 52 employees of Parcast LLC.

Key Performance Indicators

We use certain key performance indicators to monitor and manage our business. We use these indicators to evaluate our business, measure our performance, identify trends affecting our business, formulate business plans, and make strategic decisions. We believe these indicators provide useful information to investors in understanding and evaluating our operating results in the same manner we do.

MAUs

We track MAUs as an indicator of the size of the audience engaged with our Service. We define MAUs as the total count of users of our Ad-Supported Service ("Ad-Supported Users") and Premium Subscribers that have consumed content for greater than zero milliseconds in the last thirty days from the period-end indicated. Reported MAUs may overstate the number of unique individuals who actively use our Service within a thirty-day period as one individual may register for, and use, multiple accounts. Additionally, fraud and unauthorized access to our Service may contribute, from time to time, to an overstatement of MAUs, if undetected. Fraudulent accounts typically are created by bots to inflate content licensing payments to individual rights holders. We strive to detect and minimize these fraudulent accounts. Our MAUs in the tables below are inclusive of users that may have employed methods to limit or otherwise avoid being served advertisements. For additional information, refer to the risk factors discussed under Item 3.D. "Risk Factors" in our Annual Report on Form 20-F.

The table below sets forth our monthly active users as of March 31, 2021 and 2020.

	As of March 31			
	2021	2020	Change	
	(in millions, except percentages)			
MAUs	356	286	70	24 %

MAUs were 356 million as of March 31, 2021 and 286 million as of March 31, 2020, which represented an increase of 24%. MAUs benefited from our continued investment in driving the growth of our Service, both through geographic expansion and consumer marketing. MAUs also benefited from continued investment in content and features on our platform, including featured playlists, artist marketing campaigns, podcasts, and original content, to drive increased user engagement and customer satisfaction.

Premium Subscribers

We define Premium Subscribers as users that have completed registration with Spotify and have activated a payment method for Premium Service. Our Premium Subscribers include all registered accounts in our Family Plan and Duo Plan. Our Family Plan consists of one primary subscriber and up to five additional sub-accounts, allowing up to six Premium Subscribers per Family Plan Subscription. Our Duo Plan consists of one primary subscriber and up to one additional sub-account, allowing up to two Premium Subscribers per Duo Plan Subscription. Premium Subscribers includes subscribers in a grace period of up to 30 days after failing to pay their subscription fee.

The table below sets forth our Premium Subscribers as of March 31, 2021 and 2020.

	As of March 31			
	2021	2020	Change	
	(in millions, except percentages)			
Premium Subscribers	158	130	28	21 %

Premium Subscribers were 158 million as of March 31, 2021 and 130 million as of March 31, 2020, which represented an increase of 21%. The Family Plan was a meaningful contributor of total gross added Premium Subscribers, while our free trial offers and global campaigns also accounted for a significant portion of gross added Premium Subscribers. In addition, there was an increase in the number of Premium Subscribers on our Duo Plan.

Ad-Supported MAUs

We define Ad-Supported MAUs as the total count of Ad-Supported Users that have consumed content for greater than zero milliseconds in the last thirty days from the period-end indicated.

The table below sets forth our Ad-Supported MAUs as of March 31, 2021 and 2020.

	As of March 31			
	2021	2020	Change	
	(in millions, except percentages)			
Ad-Supported MAUs	208	163	45	27 %

Ad-Supported MAUs were 208 million as of March 31, 2021 and 163 million as of March 31, 2020, which represented an increase of 27%. Ad-Supported MAUs benefited from our continued investment in driving the growth of our Ad-Supported Service, both through geographic expansion and consumer marketing. Ad-Supported MAUs also benefited from continued investment in content and features on our platform, including featured playlists, artist marketing campaigns, podcasts, and original content, to drive increased Ad-Supported User engagement and customer satisfaction.

Premium ARPU

Premium average revenue per user ("ARPU") is a monthly measure defined as Premium revenue recognized in the quarter indicated divided by the average daily Premium Subscribers in such quarter, which is then divided by three months.

The table below sets forth our average Premium ARPU for the three months ended March 31, 2021 and 2020.

	Three months ended March 31,			
	2021	2020	Change	
Premium ARPU	€ 4.12	€ 4.42	€ (0.30)	(7)%

For the three months ended March 31, 2021 and 2020, Premium ARPU was €4.12 and €4.42, respectively, which represented a decrease of 7%. The decrease was due principally to movements in foreign exchange rates, reducing Premium ARPU by €0.23, and a change in Premium Subscriber mix, reducing Premium ARPU by €0.06.

How We Generate Revenue

We operate and manage our business in two reportable segments - Premium and Ad-Supported. We identify our reportable segments based on the organizational units used by management to monitor performance and make operating decisions. See Note 5 to our interim condensed consolidated financial statements for additional information regarding our reportable segments.

Premium

We generate revenue for our Premium segment through the sale of the Premium Service. The Premium Service is sold directly to end users and through partners who are generally telecommunications companies that bundle the subscription with their own services or collect payment for the stand-alone subscriptions from the end user. We also bundle the Premium Service with third-party services and products.

Ad-Supported

We generate revenue for our Ad-Supported segment from the sale of display, audio, and video advertising delivered through advertising impressions and podcast downloads. We generally enter into arrangements with advertising agencies that purchase advertising on our platform on behalf of the agencies' clients and directly with some large advertisers. Additionally, we generate Ad-Supported revenue through arrangements with certain advertising automated exchanges, internal self-serve, and advertising marketplace platforms to distribute advertising inventory for purchase on a cost-per-thousand basis.

Components of our Operating Results

Cost of Revenue. Cost of revenue consists predominantly of royalty and distribution costs related to content streaming. We incur royalty costs, which we pay to certain record labels, music publishers, and other rights holders, for the right to stream music to our users. Royalties are typically calculated monthly based on the combination of a number of different elements. Generally, Premium Service royalties are based on the greater of a percentage of revenue and a per user amount. Royalties for the Ad-Supported Service are typically a percentage of relevant revenue, although certain agreements are based on the greater of a percentage of relevant revenue and an amount for each time a sound recording and musical composition is streamed. We have negotiated lower per user amounts for our lower priced subscription plans such as Family Plan, Duo Plan, and Student Plan users. In our agreements with certain record labels, the percentage of revenue used in the calculation of royalties is generally dependent upon certain targets being met. The targets can include such measures as the number of Premium Subscribers, the ratio of Ad-Supported Users to Premium Subscribers, and/or the rates of Premium Subscriber churn. In addition, royalty rates vary by country. Some of our royalty agreements require that royalty costs be paid in advance or are subject to minimum guaranteed amounts. For the majority of royalty agreements, incremental costs incurred due to un-recouped advances and minimum guarantees have not been significant to date. We also have certain so-called most favored nation royalty agreements, which require us to record additional costs if certain material contract terms are not as favorable as the terms we have agreed to with similar licensors.

Cost of revenue also includes credit card and payment processing fees for subscription revenue, customer service, certain employee compensation and benefits, cloud computing, streaming, facility, and equipment costs, as well as the amortization of podcast content assets. Amortization of podcast content assets is recorded over the shorter of the estimated useful economic life or the license period (if relevant), and begins at the release of each episode. Cost of revenue also includes discounted trial costs.

Research and Development. We invest heavily in research and development in order to drive user engagement and customer satisfaction on our platform, which we believe helps drive organic growth in MAUs, which, in turn, drives additional growth in, and better retention of, Premium Subscribers, as well as increased advertising opportunities to Ad-Supported Users. We aim to design products and features that create and enhance user experiences, and new technologies are at the core of many of these opportunities. Expenses primarily comprise costs incurred for development of products related to our platform and Service, as well as new advertising products and improvements to our mobile application and desktop application and streaming services. The costs incurred include related facility costs, consulting costs, and employee compensation and benefits costs. We expect engineers to represent a significant portion of our employees over the foreseeable future.

Many of our new products and improvements to our platform require large investments and involve substantial time and risks to develop and launch. Some of these products may not be well received or may take a long time for users to adopt. As a result, the benefits of our research and development investments are difficult to forecast.

Sales and Marketing. Sales and marketing expenses primarily comprise employee compensation and benefits, public relations, branding, consulting expenses, customer acquisition costs, advertising, live events and trade shows, amortization of trade name intangible assets, the cost of working with music record labels, publishers, songwriters, and artists to promote the availability of new releases on our platform, and the costs of providing free trials of Premium Services. Expenses included in the cost of providing free trials are derived primarily from per user royalty fees determined in accordance with the rights holder agreements.

General and Administrative. General and administrative expenses primarily comprise employee compensation and benefits for functions such as finance, accounting, analytics, legal, human resources, consulting fees, and other costs including facility and equipment costs, officers' liability insurance, director fees, and fair value adjustments on contingent consideration.

Results of Operations

Impact of COVID-19 pandemic

The COVID-19 pandemic has created significant volatility, uncertainty, and economic disruption. In response to the COVID-19 pandemic, we have taken a number of actions focused on protecting the health and safety of our employees, maintaining business continuity, and supporting the global music community, including extending the work-from-home arrangement for employees that began in March 2020 until September 1, 2021 and launching the Spotify COVID-19 Music Relief Project, through which we matched donations to organizations that offer financial relief to those in the music community most in need around the world for a total contribution of $10 million.

The full impact of the COVID-19 pandemic on our business, financial condition, and results of operations will depend on numerous evolving factors that we may not be able to accurately predict and that will vary by market, including the duration and scope of the pandemic, including any resurgences, the impact of the pandemic on economic activity, and actions taken by governments, businesses, and individuals in response. Refer to Item 3.D. "Risk Factors" in our Annual Report on Form 20-F for further discussion of the impact of the COVID-19 pandemic on our business, operating results, and financial condition.

Revenue

	Three months ended March 31,			
	2021	2020	Change	
	(in € millions, except percentages)			
Premium	1,931	1,700	231	14 %
Ad-Supported	216	148	68	46 %
Total	**2,147**	**1,848**	**299**	**16 %**

Premium revenue

For the three months ended March 31, 2021 and 2020, Premium revenue comprised 90% and 92% of our total revenue, respectively. For the three months ended March 31, 2021 as compared to the three months ended March 31, 2020, Premium revenue increased €231 million, or 14%. The increase was attributable primarily to a 21% increase in the number of Premium Subscribers, partially offset by a decrease in Premium ARPU of 7%, as noted above.

Ad-Supported revenue

For the three months ended March 31, 2021 and 2020, Ad-Supported revenue comprised 10% and 8% of our total revenue, respectively. For the three months ended March 31, 2021 as compared to the three months ended March 31, 2020, Ad-Supported revenue increased €68 million, or 46%. This increase was due primarily to an increase in the number of impressions sold in our direct and programmatic channels, which grew revenue by €36 million, or 26%, year-over-year. The majority of the remaining increase is attributable to Megaphone and The Ringer acquisitions and exclusive licensing of the Joe Rogan Experience, subsequent to the three months ended March 31, 2020. Ad-Supported revenue during the three months ended March 31, 2020 was impacted by COVID-19.

Foreign exchange impact on total revenue

The general strengthening of the Euro relative to certain foreign currencies, primarily the U.S. Dollar and Brazilian Real for the three months ended March 31, 2021, as compared to the same period in 2020, had an unfavorable net impact on our revenue. We estimate that total revenue for the three months ended March 31, 2021 would have been approximately €114 million higher, if foreign exchange rates had remained consistent with foreign exchange rates for the comparable period in 2020.

Cost of revenue

	Three months ended March 31,			
	2021	2020	Change	
	(in € millions, except percentages)			
Premium	1,393	1,219	174	14 %
Ad-Supported	206	157	49	31 %
Total	**1,599**	**1,376**	**223**	**16 %**

Premium cost of revenue

For the three months ended March 31, 2021 as compared to the three months ended March 31, 2020, Premium cost of revenue increased €174 million, or 14%, and Premium cost of revenue as a percentage of Premium revenue remained flat at 72%. The increase in Premium cost of revenue was driven primarily by growth and mix of Premium Subscribers resulting in higher royalty costs, payment transaction fees, and streaming delivery costs of €185 million, €5 million, and €6 million, respectively. The three months ended March 31, 2020 included a net €10 million charge relating to settlements with rights holders and changes in prior period estimates for rights holder liabilities.

Ad-Supported cost of revenue

For the three months ended March 31, 2021 as compared to the three months ended March 31, 2020, Ad-Supported cost of revenue increased €49 million, or 31%, and Ad-Supported cost of revenue as a percentage of Ad-Supported revenue decreased from 107% to 96%. The increase in Ad-Supported cost of revenue was driven primarily by an increase in podcast costs of €26 million and higher royalty costs of €24 million due to growth in both advertising revenue and streams. The three months ended March 31, 2020 included a charge of €5 million relating to changes in prior period estimates for rights holder liabilities.

Foreign exchange impact on total cost of revenue

The general strengthening of the Euro relative to certain foreign currencies, primarily the U.S. Dollar and Brazilian Real for the three months ended March 31, 2021 as compared to the same period in 2020, had a favorable net impact on our cost of revenue. We estimate that total cost of revenue for the three months ended March 31, 2021 would have been approximately €86 million higher if foreign exchange rates had remained consistent with foreign exchange rates for the comparable period in 2020.

Gross profit/(loss) and gross margin

	Three months ended March 31,			
	2021	2020	Change	
	(in € millions, except percentages)			
Gross profit/(loss)				
Premium	538	481	57	12 %
Ad-Supported	10	(9)	19	(211)%
Consolidated	**548**	**472**	**76**	**16 %**
Gross margin				
Premium	28 %	28 %		
Ad-Supported	4 %	(7)%		
Consolidated	**26 %**	**26 %**		

Premium gross profit and gross margin

For the three months ended March 31, 2021 as compared to the three months ended March 31, 2020, Premium gross profit increased by €57 million, and Premium gross margin remained flat at 28%. Premium gross margin remained flat due primarily to increased royalties offset by settlements with rights holders and changes in prior period estimates for rights holder liabilities during the three months ended March 31, 2020.

Ad-Supported gross profit/(loss) and gross margin

For the three months ended March 31, 2021 as compared to the three months ended March 31, 2020, Ad-Supported gross profit increased by €19 million, and gross margin increased from (7)% to 4%. The increase in Ad-Supported gross margin was due primarily to an increase in revenue that outpaced streams growth and delivery costs, while podcast costs growth modestly outpaced podcast revenue growth. For the three months ended March 31, 2020, reduced advertising demand due to COVID 19 resulted in unfavorable impacts to Ad-Supported gross margin, as an increase in streams outpaced revenue growth.

Consolidated Operating expenses

Research and development

	Three months ended March 31,			
	2021	2020	Change	
	(in € millions, except percentages)			
Research and development	196	162	34	21 %
As a percentage of revenue	**9 %**	**9 %**		

For the three months ended March 31, 2021 as compared to the three months ended March 31, 2020, research and development costs increased €34 million, or 21%, as we continually enhance our platform to retain and grow our user base. The increase was due primarily to an increase in personnel-related costs of €29 million, which included increased salaries, share-based compensation, and other employee benefits of €15 million, €5 million, and €8 million, respectively, as a result of increased headcount to support our growth. In addition, there was an increase in information technology costs of €8 million due to an increase in our usage of cloud computing services and additional software license fees.

Sales and marketing

	Three months ended March 31,			
	2021	2020	Change	
	(in € millions, except percentages)			
Sales and marketing	236	231	5	2 %
As a percentage of revenue	**11 %**	**13 %**		

For the three months ended March 31, 2021 as compared to the three months ended March 31, 2020, sales and marketing expense increased by €5 million, or 2%. The increase was due primarily to an increase in advertising costs of €22 million for marketing campaigns. There was also an increase in personnel-related costs of €12 million, which included increased salaries and other employee benefits of €7 million and €3 million, respectively, as a result of increased headcount to support our growth. These increases were partially offset by a decrease in the cost of providing free trials of €25 million as a result of changes in our free trial campaigns.

General and administrative

	Three months ended March 31,			
	2021	2020	Change	
	(in € millions, except percentages)			
General and administrative	102	96	6	6 %
As a percentage of revenue	**5 %**	**5 %**		

For the three months ended March 31, 2021 as compared to the three months ended March 31, 2020, general and administrative expense increased by €6 million, or 6%. The increase was due primarily to an increase in personnel-related costs of €10 million, which included increased salaries, share-based compensation, and other employee benefits of €4 million, €2 million, and €2 million, respectively, as a result of increased headcount to support our growth.

Finance income

Finance income consists of fair value adjustment gains on certain financial instruments, interest income earned on our cash and cash equivalents and short-term investments, and foreign currency gains.

	Three months ended March 31,		Change	
	2021	2020		
	(in € millions, except percentages)			
Finance income	104	70	34	49 %
As a percentage of revenue	**5 %**	**4 %**		

For the three months ended March 31, 2021 as compared to the three months ended March 31, 2020, finance income increased €34 million due primarily to a fair value gain recorded for the Exchangeable Notes of €49 million. There was also an increase of €9 million in foreign exchange gains on the remeasurement of monetary assets and liabilities in a transaction currency other than the functional currency. These increases were partially offset by a decrease in fair value gains recorded for warrants of €18 million.

Finance costs

Finance costs consist of fair value adjustment losses on certain financial instruments, interest expense, transaction costs on the issuance of Exchangeable Notes, and foreign currency losses.

	Three months ended March 31,		Change	
	2021	2020		
	(in € millions, except percentages)			
Finance costs	(31)	(12)	(19)	158 %
As a percentage of revenue	**(1)%**	**(1)%**		

For the three months ended March 31, 2021 as compared to the three months ended March 31, 2020, finance costs increased €19 million. The increase was due primarily to €18 million of transaction costs recorded in connection with the issuance of the Exchangeable Notes.

Income tax expense

	Three months ended March 31,		Change	
	2021	2020		
	(in € millions, except percentages)			
Income tax expense	64	40	24	60 %
As a percentage of revenue	**3 %**	**2 %**		

For the three months ended March 31, 2021, income tax expense increased €24 million due primarily to reassessment of uncertain tax positions of €38 million arising from new information in the current quarter. In addition, current period share-based compensation deductions recognized in equity resulted in additional tax expense for the three months ended March 31, 2021.

Non-IFRS Financial Measure

We have reported our financial results in accordance with IFRS as issued by IASB. In addition, we have discussed our results using the non-IFRS measure of Free Cash Flow as discussed below.

We define "Free Cash Flow" as net cash flows from operating activities less capital expenditures and change in restricted cash. We believe Free Cash Flow is a useful supplemental financial measure for us and investors in assessing our ability to pursue business opportunities and investments. Free Cash Flow is not a measure of our liquidity under IFRS and should not be considered as an alternative to net cash flows from operating activities.

Free Cash Flow is a non-IFRS measure and is not a substitute for IFRS measures in assessing our overall financial performance. Because Free Cash Flow is not a measurement determined in accordance with IFRS, and is susceptible to varying calculations, it may not be comparable to other similarly titled measures presented by other companies. You should not consider Free Cash Flow in isolation, or as a substitute for an analysis of our results as reported on our interim condensed consolidated financial statements appearing elsewhere in this document.

Set forth below is a reconciliation of Free Cash Flow to net cash flows from operating activities for the periods presented.

	Three months ended March 31,	
	2021	2020
	(in € millions)	
Net cash flows from operating activities	65	(9)
Capital expenditures	(24)	(12)
Free Cash Flow	**41**	**(21)**

Liquidity and Capital Resources

Our principal sources of liquidity are our cash and cash equivalents, short term investments, and cash generated from operating activities. Cash and cash equivalents and short term investments consist mostly of cash on deposit with banks, investments in money market funds, investments in government securities, corporate debt securities, and collateralized reverse purchase agreements. Cash and cash equivalents and short-term investments increased by €1,339 million from €1,747 million as of December 31, 2020 to €3,086 million as of March 31, 2021.

We believe our existing cash and cash equivalent balances, and the cash flow we generate from our operations will be sufficient to meet our working capital and capital expenditure needs for at least the next 12 months. However, our future capital requirements may be materially different than those currently planned in our budgeting and forecasting activities and depend on many factors, including our rate of revenue growth, the timing and extent of spending on content and research and development, the expansion of our sales and marketing activities, the timing of new product introductions, market acceptance of our products, our continued international expansion, competitive factors, the COVID-19 pandemic, and global economic conditions. To the extent that current and anticipated future sources of liquidity are insufficient to fund our future business activities and requirements, we may be required to seek additional equity or debt financing. The sale of additional equity would result in additional dilution to our shareholders, while the incurrence of debt financing would result in debt service obligations. Such debt instruments also could introduce covenants that might restrict our operations. We cannot assure you that we could obtain additional financing on favorable terms, or at all. While the COVID-19 pandemic has not materially impacted our liquidity and capital resources to date, it has led to increased disruption and volatility in capital markets and credit markets. The pandemic and resulting economic uncertainty could adversely affect our liquidity and capital resources in the future. Based on past performance and current expectations, we believe our strong cash and cash equivalents and investments position are critical at this time of uncertainty due to the COVID-19 pandemic, and allow us to use our cash resources for working capital needs, capital expenditures, investment requirements, contractual obligations, commitments, and other liquidity requirements associated with our operations. For additional information, refer to the risk factors discussed under Item 3.D. "Risk Factors" in our Annual Report on Form 20-F.

We have planned capital expenditures of approximately €67 million in the next 12 months associated with the build-out of office space in Los Angeles, Miami, Berlin, and Stockholm, among others.

While we continue to make investments in offices and information technology infrastructure through purchases of property and equipment and lease arrangements to provide capacity for the growth of our business, we may slow the pace of our investments due to COVID-19. We may also see a shift in investments due to our newly implemented Work From Anywhere program which allows most employees to elect their work location from physical office space and home mix options.

Exchangeable Notes

On March 2, 2021, Spotify USA Inc. issued US$1,500 million in aggregate principal amount of 0% Exchangeable Notes due 2026. Net proceeds from the issuance of the Exchangeable Notes were €1,223 million after deducting the transaction costs. We intend to use the net proceeds for general corporate purposes. See Note 17 to our interim condensed consolidated financial statements for further information regarding our Exchangeable Notes.

Cash Flow

	Three months ended March 31,	
	2021	2020
	(in € millions)	
Net cash flows from/(used in) operating activities	65	(9)
Net cash flows used in investing activities	(114)	(184)
Net cash flows from financing activities	1,250	77
Free Cash Flow[(1)]	41	(21)

(1) For a discussion of the limitations associated with using Free Cash Flow rather than IFRS measures, and a reconciliation of Free Cash Flow to net cash flows from operating activities, see "Non-IFRS Financial Measure" above.

Operating activities

Net cash flows from operating activities increased by €74 million to €65 million for the three months ended March 31, 2021 as compared to the three months ended March 31, 2020. The increase was due primarily to an increase in operating income of €31 million, partially offset by non-cash items including depreciation, amortization, and share-based compensation expense. The increase was also due to favorable changes in working capital of €30 million, principally deferred revenue, as compared to the three months ended March 31, 2020.

Investing activities

Net cash flows used in investing activities decreased by €70 million for the three months ended March 31, 2021 as compared to the three months ended March 31, 2020. The decrease was due primarily to a decrease in cash used in business combinations, net of cash acquired, of €78 million, partially offset by an increase in capital expenditures of €12 million.

Financing activities

Net cash flows from financing activities increased by €1,173 million for the three months ended March 31, 2021 as compared to the three months ended March 31, 2020. The increase was due primarily to net proceeds of €1,233 million from the issuance of Exchangeable Notes, partially offset by a decrease in proceeds from the exercise of stock options of €26 million.

Free Cash Flow

Free Cash Flow increased by €62 million to €41 million for the three months ended March 31, 2021 as compared to the three months ended March 31, 2020, due primarily to an increase in net cash flows from operating activities of €74 million, as described above, partially offset by an increase in capital expenditures of €12 million.

Restrictions on Subsidiaries to Transfer Funds

The payment of dividends and the making, or repayment, of loans and advances to the Company by the Company's direct subsidiaries and such payments by its indirect subsidiaries to their respective parent entities are subject to various restrictions. Future indebtedness of these subsidiaries may prohibit the payment of dividends or the making, or repayment, of loans or advances to the Company. In addition, the ability of any of the Company's direct or indirect subsidiaries to make certain distributions may be limited by the laws of the relevant jurisdiction in which the subsidiaries are organized or located, including financial assistance rules, corporate benefit laws, liquidity requirements, requirements that dividends must be paid out of reserves available for distribution, and other legal restrictions which, if violated, might require the recipient to refund unlawful payments. Spotify AB, which, directly or indirectly through its subsidiaries, conducts much of the Group's business, may only make dividends to the Company if there would continue to be full coverage of its restricted equity following such dividend, and only if doing so would be considered prudent under Swedish law given the needs of Spotify AB and its subsidiaries. Loans and other advances from Spotify AB to the Company may be subject to essentially the same restrictions as dividends. Since the Company is expected to rely primarily on dividends from its direct and indirect subsidiaries to fund its financial and other obligations, restrictions on its ability to receive such funds may adversely impact the Company's ability to fund its financial and other obligations.

Indebtedness

As of March 31, 2021, our outstanding indebtedness, other than lease liabilities, consisted primarily of the Exchangeable Notes that mature on March 15, 2026 and bear no interest. See Note 17 to our interim condensed consolidated financial statements for further information regarding our Exchangeable Notes. We may from time to time seek to incur additional indebtedness. Such indebtedness, if any, will depend on prevailing market conditions, our liquidity requirements, contractual restrictions, and other factors.

Off-Balance Sheet Arrangements

As of March 31, 2021, we do not have transactions with unconsolidated entities, such as entities often referred to as structured finance or special purpose entities, whereby we have financial guarantees, subordinated retained interests, derivative instruments, or other contingent arrangements that expose us to material continuing risks, contingent liabilities, or any other obligation under a variable interest in an unconsolidated entity that provides financing, liquidity, market risk, or credit risk support to us.

Tabular Disclosure of Contractual Obligations

The following table sets forth our contractual obligations and commercial commitments as of March 31, 2021:

	Payments due by period				
Contractual obligations:	**Total**	**Less than 1 year**	**1-3 years**	**3-5 years**	**More than 5 years**
			(in € millions)		
Minimum guarantees [1]	3,503	424	2,978	101	—
Exchangeable Notes [2]	1,279	—	—	1,279	—
Lease obligations [3]	932	88	180	178	486
Purchase obligations [4]	932	243	689	—	—
Deferred and contingent consideration [5]	71	24	36	11	—
Total	**6,717**	**779**	**3,883**	**1,569**	**486**

(1) We are subject to minimum royalty payments associated with our license agreements for the use of licensed content. See risk factors discussed under Item 3.D. "Risk Factors" in our Annual Report on Form 20-F.
(2) Consists of principal on our 0.00% Exchangeable Notes due March 15, 2026.
(3) Included in the lease obligations are short term leases and certain lease agreements that we have entered into, but have not yet commenced as of March 31, 2021. Lease obligations relate to our office space. The lease terms are between one and fourteen years. See Note 9 to the interim condensed consolidated financial statements for further details regarding leases.
(4) We are subject to various non-cancelable purchase obligations and service agreements with minimum spend commitments, including a service agreement with Google for the use of Google Cloud Platform and certain podcast commitments.
(5) Included in deferred consideration are obligations to transfer €37 million of cash consideration over the next four years to former owners of certain entities we have acquired. Included in contingent consideration is the obligation to transfer a maximum of €34 million of contingent cash payment consideration over the next two years to former owners of an entity we acquired if specified user engagement targets are achieved.

Subsequent to the end of the reporting period, we signed license agreements with certain music labels, publishers and podcast agreements with creators. Included in these agreements are minimum guarantee and spend commitments of approximately €159 million over the next three years.

Item 3. Quantitative and Qualitative Disclosures About Market Risk

Our activities expose us to a variety of market risks. Our primary market risk exposures relate to currency, interest rate, share price, and investment risks. To manage these risks and our exposure to the unpredictability of financial markets, we seek to minimize potential adverse effects on our financial performance and capital.

Volatile market conditions arising from the COVID-19 pandemic may result in significant changes in foreign exchange rates, interest rates, and share prices, both our own and those used to value certain of our long-term investments. Refer to Item 3.D. "Risk Factors" in our Annual Report on Form 20-F for further discussion on the impact of the COVID-19 pandemic on our business, operating results, and financial condition.

Currency Risk

Currency risk manifests itself in transaction exposure, which relates to business transactions denominated in foreign currency required by operations (purchasing and selling) and/or financing (interest and amortization). The volatility in foreign exchange rates due to the COVID-19 pandemic, in particular a weakening of foreign currencies relative to the Euro may negatively affect our revenue. Our general policy is to hedge transaction exposure on a case-by-case basis. Translation exposure relates to net investments in foreign operations. We do not conduct translation risk hedging.

We are subject to deferred tax as a result of foreign exchange movements between USD, EUR, and SEK, primarily related to our investment in TME.

Transaction Exposure Sensitivity

In most cases, our customers are billed in their respective local currency. Major payments, such as salaries, consultancy fees, and rental fees are settled in local currencies. Royalty payments are primarily settled in Euros and U.S. dollars. Hence, the operational need to net purchase foreign currency is due primarily to a deficit from such settlements.

The table below shows the immediate impact on income before tax of a 10% strengthening of foreign currencies relative to the Euro in the closing exchange rate of significant currencies to which we have transaction exposure, at March 31, 2021. The sensitivity associated with a 10% weakening of a particular currency would be equal and opposite. This assumes that each currency moves in isolation.

	USD	SEK
Increase/(decrease) in income before tax	108	(13)

Translation Exposure Sensitivity

The impact on our equity would be approximately €95 million if the Euro weakened by 10% against all translation exposure currencies, based on the exposure at March 31, 2021.

Interest Rate Risk

Interest rate risk is the risk that changes in interest rates will have a negative impact on earnings and cash flow. Our exposure to interest rate risk is related to our interest-bearing assets, primarily our short term debt securities. Fluctuations in interest rates impact the yield of the investment. The sensitivity analysis considered the historical volatility of short term interest rates and determined that it was reasonably possible that a change of 100 basis points could be experienced in the near term. A hypothetical 100 basis point increase in interest rates would have impacted interest income by €2 million for the three months ended March 31, 2021.

Share Price Risk

Share price risk is the risk that the fair value or future cash flows of a financial instrument will fluctuate due to changes in the fair value of the Company's ordinary share price. Our exposure to this risk relates primarily to the Exchangeable Notes and outstanding warrants.

The impact on the fair value of the Exchangeable Notes of using reasonably possible alternative assumptions with a decrease or increase in share price of 10% results in a range of €1,205 million to €1,256 million at March 31, 2021.

The impact on the fair value of the outstanding warrants with a decrease or increase in the Company's ordinary share price of 10% results in a range of €53 million to €81 million at March 31, 2021.

The impact on the accrual for social costs on outstanding share-based compensation awards of a decrease or increase in the Company's ordinary share price of 10% would both result in a change of €23 million at March 31, 2021.

Investment Risk

We are exposed to investment risk as it relates to changes in the market value of our long term investments, due primarily to volatility in the share price used to measure the investment and exchange rates. The majority of our long term

investments relate to TME. The impact on the fair value of our long term investment in TME with a decrease or increase of TME's share price used to value our equity interest of 10% results in a range of €2,224 million to €2,718 million at March 31, 2021.

Critical Accounting Policies and Estimates

We prepare our interim condensed consolidated financial statements in accordance with IFRS as issued by the IASB. Preparing these financial statements requires us to make estimates and assumptions that affect the reported amounts of assets, liabilities, equity, revenue, expenses, and related disclosures. We evaluate our estimates and assumptions on an ongoing basis. Our estimates are based on historical experience and various other assumptions that we believe to be reasonable under the circumstances. Our actual results may differ from these estimates.

We believe that the assumptions and estimates associated with revenue, share-based compensation, content, warrants, exchangeable notes, business combinations, determining the incremental borrowing rate, and income taxes have the greatest potential impact on our interim condensed consolidated financial statements. Therefore, we consider these to be our critical accounting policies and estimates.

Except for the Exchangeable Notes presented below, there have been no material changes or additions to our critical accounting policies and estimates as compared to the critical accounting policies and estimates described in our Annual Report on Form 20-F.

Exchangeable Notes

We accounted for the Exchangeable Notes at fair value through profit and loss using the fair value option in accordance with IFRS 9 *Financial Instruments*. Under this approach, the Exchangeable Notes are accounted for in their entirety at fair value, with any change in fair value after initial measurement being recorded in finance income or cost in the condensed consolidated statement of operations, except that changes in fair value that are due to changes in own credit risk will be presented separately in other comprehensive income and will not be reclassified to the condensed consolidated statement of operations.

The fair value of the Exchangeable Notes is estimated using a combination of binomial option pricing model and prices observed for the Exchangeable Notes in an over-the-counter market on the last trading day of the reporting period. The key inputs and assumptions, which involve inherent uncertainties and management judgement, to the fair value of the Exchangeable Notes have been discussed in Note 21 to our condensed consolidated financial statements included in this document.

Recent Accounting Pronouncements

See Note 2 to our interim condensed consolidated financial statements included in this document for recently adopted accounting pronouncements and recently issued accounting pronouncements not yet adopted, if material, as of the dates of the statement of financial position included in this document.

PART II - OTHER INFORMATION

Item 1. Legal Proceedings

We are from time to time subject to various claims, lawsuits and other legal proceedings. Some of these claims, lawsuits and other legal proceedings involve highly complex issues, and often these issues are subject to substantial uncertainties. Accordingly, our potential liability with respect to a large portion of such claims, lawsuits and other legal proceedings cannot be estimated with certainty. Management, with the assistance of legal counsel, periodically reviews the status of each significant matter and assesses potential financial exposure. We recognize provisions for claims or pending litigation when it determines that an unfavorable outcome is probable and the amount of loss can be reasonably estimated. Due to the inherent uncertain nature of litigation, the ultimate outcome or actual cost of settlement may materially vary from estimates. If management's estimates prove incorrect, current reserves could be inadequate and we could incur a charge to earnings which could have a material adverse effect on our results of operations, financial condition, and cash flows.

For a discussion of legal proceedings in which we are involved, see Note 22 to our interim condensed consolidated financial statements included in this report.

Item 1A. Risk Factors

Part I, Item 3.D. “Risk Factors” in our Annual Report on Form 20-F includes a discussion of our risk factors. The information presented below updates, and should be read in conjunction with, the risk factors and information disclosed in our Annual Report on Form 20-F. Except as presented below, there have been no material changes to our risk factors since those reported in Annual Report on Form 20-F.

Our indebtedness and liabilities could limit the cash flow available for our operations, expose us to risks that could adversely affect our business, financial condition and results of operations and impair our ability to satisfy our obligations under the Exchangeable Notes.

As of March 31, 2021, we had $1,500 million principal amount of indebtedness as a result of the Exchangeable Notes offering. We may also incur additional indebtedness to meet future financing needs. Our indebtedness could have significant negative consequences for our security holders and our business, results of operations and financial condition by, among other things:

- increasing our vulnerability to adverse economic and industry conditions;
- limiting our ability to obtain additional financing;
- requiring the dedication of a substantial portion of our cash flow from operations to service our indebtedness, which will reduce the amount of cash available for other purposes;
- limiting our flexibility to plan for, or react to, changes in our business;
- diluting the interests of our existing shareholders as a result of issuing ordinary shares upon exchange of the Exchangeable Notes; and
- placing us at a possible competitive disadvantage with competitors that are less leveraged than us or have better access to capital.

Our business may not generate sufficient funds, and we may otherwise be unable to maintain sufficient cash reserves, to pay amounts due under our indebtedness, including the Exchangeable Notes, and our cash needs may increase in the future. In addition, future indebtedness that we may incur may contain financial and other restrictive covenants that limit our ability to operate our business, raise capital or make payments under our other indebtedness. If we fail to comply with these covenants or to make payments under our indebtedness when due, we would be in default under that indebtedness, which could, in turn, result in that and our other indebtedness becoming immediately payable in full.

We may be unable to raise the funds necessary to repurchase the Exchangeable Notes for cash following certain fundamental change as set forth in the Indenture, or to pay any cash amounts due upon exchange, and our future indebtedness may limit our ability to repurchase the Exchangeable Notes or pay cash upon their exchange.

Holders of the Exchangeable Notes may, subject to a limited exception under the Indenture, require us to repurchase their Exchangeable Notes following certain fundamental change under the Indenture at a cash repurchase price generally equal to the principal amount of the Exchangeable Notes to be repurchased, plus accrued and unpaid special and additional interest, if any. In addition, upon exchange, we will satisfy part or all of our exchange obligation in cash unless we elect to settle exchanges solely in ordinary shares. We may not have enough available cash or be able to obtain financing at the time we are

required to repurchase the Exchangeable Notes or pay any cash amounts due upon exchange. In addition, applicable law, regulatory authorities and the agreements governing our future indebtedness may restrict our ability to repurchase the Exchangeable Notes or pay any cash amounts due upon exchange. Our failure to repurchase the Exchangeable Notes or pay any cash amounts due upon exchange when required will constitute a default under the Indenture. A default under the Indenture or the fundamental change itself could also lead to a default under agreements governing our future indebtedness, which may result in that future indebtedness becoming immediately payable in full. We may not have sufficient funds to satisfy all amounts due under the future indebtedness and the Exchangeable Notes.

Provisions in the Indenture could delay or prevent an otherwise beneficial takeover of us.

Certain provisions in the Exchangeable Notes and the Indenture could make it more difficult or expensive for a third party who attempts to acquire us. For example, if a takeover constitutes a fundamental change, then noteholders will have the right to require us to repurchase their Exchangeable Notes for cash. In addition, if a takeover constitutes a make-whole fundamental change, then we may be required to temporarily increase the exchange rate. In either case, and in other cases, our obligations under the Exchangeable Notes and the Indenture could increase the cost of acquiring us or otherwise discourage a third party from acquiring us or removing incumbent management, including in a transaction that noteholders or holders of ordinary shares may view as favorable.

The accounting method for the Exchangeable Notes could adversely affect our reported financial condition and results.

The Exchangeable Notes have been designated at fair value through profit and loss using the fair value option in accordance with IFRS. Under this treatment, the exchange feature contained in the Exchangeable Notes is reflected in the overall fair value of the Exchangeable Notes, which is marked-to-market at the end of each reporting period. For each financial statement period while the Exchangeable Notes remain outstanding, a gain or loss will be reported in our consolidated statement of operations to the extent the fair value changes from the end of the previous period, except that changes in fair value that are due to changes in own credit risk will be presented separately in other comprehensive income. The gains and losses relating to the Exchangeable Notes may be significant. Accordingly, this accounting treatment may subject our reported net income (loss) and our financial position to significant variability. Furthermore, if a fundamental change occurs, we may be required in accordance with IFRS to reclassify the carrying value of the Exchangeable Notes as a current, rather than a non-current, liability. This reclassification could be necessary even if no noteholder actually requires us to repurchase their Exchangeable Notes and could materially reduce our reported working capital. Amendments to IAS 1, which will become effective during the term of the Exchangeable Notes would also require us to reclassify the Exchangeable Notes as a current liability if the exchange conditions are met, even if no noteholder actually requires us to exchange their notes.

Item 2. Unregistered Sales of Equity Securities and Use of Proceeds

Issuer Purchases of Equity Securities

There was no share repurchase activity during the three months ended March 31, 2021.

Subsequent to March 31, 2021, the Company issued 1,000,000 ordinary shares to its Netherlands subsidiary at par value and subsequently repurchased those shares at the same price. These shares are held in treasury in order to facilitate the fulfillment of option exercises and RSU releases under the Company's stock option and RSU plans.

During our 2021 annual general meeting on April 21, 2021, shareholders and holders of beneficiary certificates authorized our Board of Directors to repurchase 10,000,000 ordinary shares issued by the Company during a period of five years, for a price that will be determined by the Board of Directors within the following limits: at least the par value and at the most the fair market value.

Item 3. Defaults Upon Senior Securities

None.

Item 5. Other Information

None.

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SIGNATURES

Pursuant to the requirements of the Securities Exchange Act of 1934, the registrant has duly caused this report to be signed on its behalf by the undersigned, thereunto duly authorized.

Spotify Technology S.A.

Date: April 28, 2021

By: /s/ Paul Vogel
Name: Paul Vogel
Title: Chief Financial Officer

COEX-
8.51

UNITED STATES
SECURITIES AND EXCHANGE COMMISSION

Washington, D.C. 20549

FORM 6-K

REPORT OF FOREIGN PRIVATE ISSUER
PURSUANT TO RULE 13a-16 OR 15d-16
UNDER THE SECURITIES EXCHANGE ACT OF 1934

For the month of July, 2021

Commission File Number: 001-38438

Spotify Technology S.A.

(Translation of registrant's name into English)

42-44, avenue de la Gare
L-1610 Luxembourg
Grand Duchy of Luxembourg
(Address of principal executive office)

Indicate by check mark whether the registrant files or will file annual reports under cover of Form 20-F or Form 40-F.

Form 20-F ☒ Form 40-F ☐

Indicate by check mark if the registrant is submitting the Form 6-K in paper as permitted by Regulation S-T Rule 101(b)(1):

Yes ☐ No ☒

Indicate by check mark if the registrant is submitting the Form 6-K in paper as permitted by Regulation S-T Rule 101(b)(7):

Yes ☐ No ☒

COEX-
8.51

Spotify Technology S.A.

Interim condensed consolidated financial statements
For the three and six months ended June 30, 2021

COEX-
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PART I - FINANCIAL INFORMATION

Item 1. Financial Statements

Interim condensed consolidated statement of operations
(Unaudited)
(in € millions, except share and per share data)

	Note	Three months ended June 30,		Six months ended June 30,	
		2021	2020	2021	2020
Revenue	5	2,331	1,889	4,478	3,737
Cost of revenue		1,668	1,410	3,267	2,786
Gross profit		**663**	**479**	**1,211**	**951**
Research and development		255	267	451	429
Sales and marketing		279	248	515	479
General and administrative		117	131	219	227
		651	**646**	**1,185**	**1,135**
Operating income/(loss)		**12**	**(167)**	**26**	**(184)**
Finance income	6	21	6	125	76
Finance costs	6	(25)	(294)	(56)	(306)
Finance income/(costs) - net		**(4)**	**(288)**	**69**	**(230)**
Income/(loss) before tax		**8**	**(455)**	**95**	**(414)**
Income tax expense/(benefit)	7	28	(99)	92	(59)
Net (loss)/income attributable to owners of the parent		**(20)**	**(356)**	**3**	**(355)**
(Loss)/earnings per share attributable to owners of the parent					
Basic	8	(0.10)	(1.91)	0.02	(1.91)
Diluted	8	(0.19)	(1.91)	(0.44)	(1.91)
Weighted-average ordinary shares outstanding					
Basic	8	191,172,946	186,552,877	190,870,850	185,799,600
Diluted	8	194,084,446	186,552,877	193,051,280	185,799,600

The accompanying notes are an integral part of the interim condensed consolidated financial statements.

Interim condensed consolidated statement of comprehensive loss
(Unaudited)
(in € millions)

	Note	Three months ended June 30, 2021	Three months ended June 30, 2020	Six months ended June 30, 2021	Six months ended June 30, 2020
Net (loss)/income attributable to owners of the parent		**(20)**	**(356)**	**3**	**(355)**
Other comprehensive (loss)/income					
Items that may be subsequently reclassified to condensed consolidated statement of operations (net of tax):					
Change in net unrealized gain or loss on short term investments	**15, 21**	(1)	4	(3)	7
Change in net unrealized gain or loss on cash flow hedging instruments	**15, 21**	5	(5)	(1)	6
Change in foreign currency translation adjustment		(17)	(3)	24	(2)
Items not to be subsequently reclassified to condensed consolidated statement of operations (net of tax):					
(Losses)/gains in the fair value of long term investments	**15, 21**	(495)	329	(300)	174
Other comprehensive (loss)/income for the period (net of tax)		**(508)**	**325**	**(280)**	**185**
Total comprehensive loss for the period attributable to owners of the parent		**(528)**	**(31)**	**(277)**	**(170)**

The accompanying notes are an integral part of the interim condensed consolidated financial statements.

Interim condensed consolidated statement of financial position
(in € millions)

	Note	June 30, 2021 (Unaudited)	December 31, 2020
Assets			
Non-current assets			
Lease right-of-use assets	**9**	441	444
Property and equipment	**10**	351	313
Goodwill	**11**	851	736
Intangible assets	**11**	95	97
Long term investments	**21**	1,897	2,277
Restricted cash and other non-current assets	**12**	78	78
Deferred tax assets	**7**	17	15
		3,730	**3,960**
Current assets			
Trade and other receivables	**13**	492	464
Income tax receivable		6	4
Short term investments	**21**	612	596
Cash and cash equivalents		2,440	1,151
Other current assets	**14**	201	151
		3,751	**2,366**
Total assets		**7,481**	**6,326**
Equity and liabilities			
Equity			
Share capital		—	—
Other paid in capital		4,656	4,583
Treasury shares	**15**	(171)	(175)
Other reserves	**15**	1,501	1,687
Accumulated deficit		(3,287)	(3,290)
Equity attributable to owners of the parent		**2,699**	**2,805**
Non-current liabilities			
Exchangeable Notes	**17, 21**	1,199	—
Lease liabilities	**9**	576	577
Accrued expenses and other liabilities	**19**	36	42
Provisions	**20**	2	2
		1,813	**621**
Current liabilities			
Trade and other payables	**18**	705	638
Income tax payable		11	9
Deferred revenue		439	380
Accrued expenses and other liabilities	**19**	1,707	1,748
Provisions	**20**	20	20
Derivative liabilities	**21**	87	105
		2,969	**2,900**
Total liabilities		**4,782**	**3,521**
Total equity and liabilities		**7,481**	**6,326**

The accompanying notes are an integral part of the interim condensed consolidated financial statements.

Interim condensed consolidated statement of changes in equity
(Unaudited)
(in € millions)

	Note	Share capital	Other paid in capital	Treasury Shares	Other reserves	Accumulated deficit	Equity attributable to owners of the parent
Balance at January 1, 2021		—	**4,583**	**(175)**	**1,687**	**(3,290)**	**2,805**
Income for the period		—	—	—	—	23	23
Other comprehensive income		—	—	—	228	—	228
Issuance of shares upon exercise of stock options, restricted stock units, and contingently issuable shares	**16**	—	47	4	—	—	51
Restricted stock units withheld for employee taxes		—	—	—	(16)	—	(16)
Share-based compensation	**16**	—	—	—	49	—	49
Income tax impact associated with share-based compensation		—	—	—	104	—	104
Balance at March 31, 2021		**—**	**4,630**	**(171)**	**2,052**	**(3,267)**	**3,244**
Loss for the period		—	—	—	—	(20)	(20)
Other comprehensive loss		—	—	—	(508)	—	(508)
Issuance of shares upon exercise of stock options and restricted stock units	**16**	—	26	—	—	—	26
Restricted stock units withheld for employee taxes		—	—	—	(12)	—	(12)
Share-based compensation	**16**	—	—	—	64	—	64
Income tax impact associated with share-based compensation		—	—	—	(95)	—	(95)
Balance at June 30, 2021		**—**	**4,656**	**(171)**	**1,501**	**(3,287)**	**2,699**

	Note	Share capital	Other paid in capital	Treasury Shares	Other reserves	Accumulated deficit	Equity attributable to owners of the parent
Balance at January 1, 2020		—	**4,192**	**(370)**	**924**	**(2,709)**	**2,037**
Income for the period		—	—	—	—	1	1
Other comprehensive loss		—	—	—	(140)	—	(140)
Issuance of share-based compensation in conjunction with business combinations	**4**	—	(113)	190	—	—	77
Issuance of shares upon exercise of stock options and restricted stock units	**16**	—	—	—	(3)	—	(3)
Share-based compensation	**16**	—	—	—	39	—	39
Income tax impact associated with share-based compensation		—	—	—	2	—	2
Balance at March 31, 2020		**—**	**4,079**	**(180)**	**822**	**(2,708)**	**2,013**
Loss for the period		—	—	—	—	(356)	(356)
Other comprehensive income		—	—	—	325	—	325
Issuance of shares upon exercise of stock options and restricted stock units	**16**	—	96	5	—	—	101
Restricted stock units withheld for employee taxes		—	—	—	(5)	—	(5)
Share-based compensation	**16**	—	—	—	51	—	51
Income tax impact associated with share-based compensation		—	—	—	(6)	—	(6)
Balance at June 30, 2020		**—**	**4,175**	**(175)**	**1,187**	**(3,064)**	**2,123**

The accompanying notes are an integral part of the interim condensed consolidated financial statements.

Interim condensed consolidated statement of cash flows
(Unaudited)
(in € millions)

	Note	Six months ended June 30, 2021	2020
Operating activities			
Net income/(loss)		3	(355)
Adjustments to reconcile net income/(loss) to net cash flows			
Depreciation of property and equipment and lease right-of-use assets	**9, 10**	45	44
Amortization of intangible assets	**11**	16	10
Share-based compensation expense	**16**	116	87
Finance income	**6**	(125)	(76)
Finance costs	**6**	56	306
Income tax expense/(benefit)	**7**	92	(59)
Other		5	6
Changes in working capital:			
Increase in trade receivables and other assets		(80)	(17)
(Decrease)/increase in trade and other liabilities		(37)	88
Increase in deferred revenue		54	30
Decrease in provisions	**20**	(1)	(1)
Interest paid on lease liabilities	**9**	(24)	(30)
Interest received		2	3
Income tax paid		(3)	(6)
Net cash flows from operating activities		**119**	**30**
Investing activities			
Business combinations, net of cash acquired	**4**	(101)	(137)
Purchases of property and equipment	**10**	(44)	(26)
Purchases of short term investments	**21**	(224)	(643)
Sales and maturities of short term investments	**21**	224	719
Change in restricted cash	**12**	—	2
Other		(8)	(21)
Net cash flows used in investing activities		**(153)**	**(106)**
Financing activities			
Proceeds from exercise of stock options	**16**	77	178
Payments of lease liabilities	**9**	(16)	(10)
Lease incentives received	**9**	—	7
Proceeds from issuance of Exchangeable Notes, net of costs	**17**	1,223	—
Payments for employee taxes withheld from restricted stock unit releases	**16**	(28)	(8)
Net cash flows from financing activities		**1,256**	**167**
Net increase in cash and cash equivalents		**1,222**	**91**
Cash and cash equivalents at beginning of the period		1,151	1,065
Net foreign exchange gains/(losses) on cash and cash equivalents		67	(8)
Cash and cash equivalents at June 30		**2,440**	**1,148**
Supplemental disclosure of cash flow information			
Non-cash investing and financing activities			
Deferred consideration liability recognized in conjunction with business combination	**4**	9	32
Recognition of lease right-of-use asset in exchange for lease liabilities	**9**	13	14
Purchases of property and equipment in trade and other liabilities	**10**	22	8

The accompanying notes are an integral part of the interim condensed consolidated financial statements.

Notes to the interim condensed consolidated financial statements
(Unaudited)

1. Corporate information

Spotify Technology S.A. (the "Company" or "parent") is a public limited company incorporated and domiciled in Luxembourg. The Company's registered office is 42-44 avenue de la Gare, L-1610, Luxembourg, Grand Duchy of Luxembourg.

The principal activity of the Company and its subsidiaries (the "Group," "we," "us," or "our") is audio streaming. The Group's premium service ("Premium Service") provides users with unlimited online and offline high-quality streaming access to its catalog of music and podcasts. The Premium Service offers a music listening experience without commercial breaks. The Group's ad-supported service ("Ad-Supported Service," and together with the Premium Service, the "Service") has no subscription fees and provides users with limited on-demand online access to the catalog of music and unlimited online access to the catalog of podcasts. The Group depends on securing content licenses from a number of major and minor content owners and other rights holders in order to provide its Service.

2. Basis of preparation and summary of significant accounting policies

The interim condensed consolidated financial statements of Spotify Technology S.A. for the three and six months ended June 30, 2021 and 2020 have been prepared in accordance with IAS 34 *Interim Financial Reporting*. The interim financial information is unaudited. The interim financial information reflects all normal recurring adjustments that are, in the opinion of management, necessary to fairly present the information set forth herein. The interim condensed consolidated financial statements should be read in conjunction with the Group's consolidated financial statements for the year ended December 31, 2020, as they do not include all the information and disclosures required in the annual consolidated financial statements. Interim results are not necessarily indicative of the results for a full year. The interim condensed consolidated financial statements are presented in millions of Euros.

New and amended standards and interpretations adopted by the Group

There are no new IFRS or IFRS Interpretation Committee ("IFRIC") interpretations effective for the six months ended June 30, 2021 that have a material impact to the interim condensed consolidated financial statements.

New standards and interpretations issued not yet effective

In January 2020, the International Accounting Standard Board ("IASB") issued amendments to paragraphs 69 to 76 of IAS 1 *Presentation of Financial Statements* to specify the requirements for classifying liabilities as current or non-current, effective for annual reporting periods beginning on or after January 1, 2023. The amendment would require the Group to reclassify the Exchangeable Notes (as defined below) as a current liability if the exchange conditions are met, even if no noteholder actually requires us to exchange their notes.

There are no other IFRS or IFRIC interpretations that are not yet effective that are expected to have a material impact on the Group's interim condensed consolidated financial statements.

3. Critical accounting estimates and judgments

Except as noted below, in preparing these interim condensed consolidated financial statements, the significant judgments made by management in applying the Group's accounting policies and the key sources of estimation and uncertainty were the same as those applied to the consolidated financial statements for the year ended December 31, 2020.

On March 2, 2021, the Company’s wholly owned subsidiary, Spotify USA Inc., issued US$1,500 million aggregate principal amount of 0% Exchangeable Senior Notes due 2026 (the “Exchangeable Notes”). See Note 17 for additional information including the accounting policy for the Exchangeable Notes.

The fair value of the Exchangeable Notes is estimated using a combination of binomial option pricing model and prices observed for the Exchangeable Notes in an over-the-counter market on the last trading day of the reporting period. See Note 21 for information regarding the key inputs and assumptions used to estimate the fair value of the Exchangeable Notes.

Estimates and judgments are continually evaluated and are based on historical experience and other factors, including expectations of future events.

4. Business combinations

Podz

On June 17, 2021, the Group acquired 100% of Podz, Inc. ("Podz"), a technology company focused on the podcast discovery experience.

The fair value of the purchase consideration was €45 million with €36 million in cash paid at closing and €9 million in deferred consideration. The acquisition was accounted for under the acquisition method. Of the total purchase consideration, €44 million has been recorded to goodwill, €2 million to acquired intangible assets and €1 million to deferred tax liabilities.

The goodwill represents the future economic benefits expected to arise from other intangible assets acquired that do not qualify for separate recognition, including expected future synergies and technical expertise of the acquired workforce. None of the goodwill recognized is expected to be deductible for tax purposes. The goodwill was included in the Ad-Supported segment.

Betty Labs Incorporated

On March 29, 2021, the Group acquired 100% of Betty Labs Incorporated ("Betty Labs"), a technology and content creation company focused on creating groundbreaking live audio experiences. The acquisition allows the Group to accelerate its entry into the live audio space.

The fair value of the purchase consideration was €57 million in cash paid at closing. The acquisition was accounted for under the acquisition method. Of the total purchase consideration, €52 million has been recorded to goodwill, €2 million to acquired intangible assets, €4 million to cash and cash equivalents, and €1 million to deferred tax liabilities.

The goodwill represents the future economic benefits expected to arise from other intangible assets acquired that do not qualify for separate recognition, including expected future synergies and technical expertise of the acquired workforce. None of the goodwill recognized is expected to be deductible for tax purposes. The goodwill was included in the Ad-Supported segment.

For the three and six months ended June 30, 2021, revenues and operating results of the acquired businesses were not significant to the Group's condensed consolidated statement of operations.

The amount for business combinations, net of cash acquired, within the condensed consolidated statement of cash flows for the six months ended June 30, 2021 includes €12 million of investing cash outflows for deferred and contingent consideration of previous business combinations.

5. Segment information

The Group has two reportable segments: Premium and Ad-Supported. The Premium Service is a paid service in which customers can listen on-demand and offline. Revenue for the Premium segment is generated through subscription fees. The Ad-Supported Service is free to the user. Revenue for the Ad-Supported segment is primarily generated through the sale of advertising across the Group's music and podcast content. Royalty costs are primarily recorded in each segment based on specific rates for each segment agreed to with rights holders. All podcast content costs are recorded in the Ad-Supported segment. The remaining costs that are not specifically associated to either of the segments are allocated based on user activity or the revenue recognized in each segment. The operations of businesses acquired during 2020 and 2021 are included in the Ad-Supported segment. No operating segments have been aggregated to form the reportable segments.

Key financial performance measures of the segments including revenue, cost of revenue, and gross profit/(loss) are as follows:

	Three months ended June 30,		Six months ended June 30,	
	2021	2020	2021	2020
	(in € millions)			
Premium				
Revenue	2,056	1,758	3,987	3,458
Cost of revenue	1,423	1,263	2,816	2,482
Gross profit	**633**	**495**	**1,171**	**976**
Ad-Supported				
Revenue	275	131	491	279
Cost of revenue	245	147	451	304
Gross profit/(loss)	**30**	**(16)**	**40**	**(25)**
Consolidated				
Revenue	2,331	1,889	4,478	3,737
Cost of revenue	1,668	1,410	3,267	2,786
Gross profit	**663**	**479**	**1,211**	**951**

Reconciliation of segment gross profit

Operating expenses, finance income, and finance costs are not allocated to individual segments as these are managed on an overall Group basis. The reconciliation between reportable segment gross profit to the Group's income/(loss) before tax is as follows:

	Three months ended June 30,		Six months ended June 30,	
	2021	2020	2021	2020
	(in € millions)			
Segment gross profit	**663**	**479**	**1,211**	**951**
Research and development	(255)	(267)	(451)	(429)
Sales and marketing	(279)	(248)	(515)	(479)
General and administrative	(117)	(131)	(219)	(227)
Finance income	21	6	125	76
Finance costs	(25)	(294)	(56)	(306)
Income/(loss) before tax	**8**	**(455)**	**95**	**(414)**

Revenue by country

	Three months ended June 30,		Six months ended June 30,	
	2021	2020	2021	2020
	(in € millions)			
United States	871	706	1,663	1,387
United Kingdom	239	202	464	403
Luxembourg	2	1	3	2
Other countries	1,219	980	2,348	1,945
	2,331	**1,889**	**4,478**	**3,737**

Premium revenue is attributed to a country based on where the membership originates. Ad-Supported revenue is attributed to a country based on where the advertising campaign is delivered. There are no countries that individually make up greater than 10% of total revenue included in "Other countries."

6. Finance income and costs

	Three months ended June 30,		Six months ended June 30,	
	2021	2020	2021	2020
	(in € millions)			
Finance income				
Fair value movements on derivative liabilities (Note 21)	—	—	22	40
Fair value movements on Exchangeable Notes (Note 21)	17	—	66	—
Interest income	2	4	5	11
Other finance income	2	2	3	5
Foreign exchange gains	—	—	29	20
Total	**21**	**6**	**125**	**76**
Finance costs				
Fair value movements on derivative liabilities (Note 21)	—	(244)	—	(244)
Interest expense on lease liabilities	(10)	(10)	(20)	(21)
Transaction costs in relation to issuance of Exchangeable Notes	—	—	(18)	—
Other finance costs	(3)	(3)	(6)	(4)
Foreign exchange losses	(12)	(37)	(12)	(37)
Total	**(25)**	**(294)**	**(56)**	**(306)**

7. Income tax

The effective tax rates for the three months ended June 30, 2021 and 2020 were 319.6% and 21.8%, respectively. The effective tax rates for the six months ended June 30, 2021 and 2020 were 96.6% and 14.1%, respectively. The Group operates in a global environment with significant operations in various jurisdictions outside Luxembourg. Accordingly, the consolidated income tax rate is a composite rate reflecting the Group's earnings and the applicable tax rates in the various jurisdictions where the Group operates.

For the three months ended June 30, 2021, the income tax expense of €28 million was due primarily to current period share-based compensation deductions recognized in equity resulting in additional tax expense as well as derecognition of deferred taxes as a result of the unrealized decrease in the fair value of the Group's long term investment in Tencent Music Entertainment Group ("TME"). For the six months ended June 30, 2021, the income tax expense of €92 million was due primarily to reassessment of uncertain tax positions of €38 million arising from new information in the period. In addition, current period share-based compensation deductions recognized in equity and the unrealized decrease in the fair value of the TME investment resulted in additional tax expense. For the three and six months ended June 30, 2020, the income tax benefit of €99 million and €59 million, respectively, was due primarily to additional recognition of deferred taxes as a result of the unrealized increase in the fair value of the TME investment.

Transactions recorded through other comprehensive (loss)/income have been shown net of their tax impact, as applicable.

We are subject to ongoing tax audits in several jurisdictions, and most of these audits involve transfer pricing issues. Tax authorities in certain jurisdictions have challenged our tax positions. We regularly assess the likely outcomes of these audits, taking into account any new information available, in order to determine the appropriateness of our tax reserves. If we conclude that it is not probable that our tax position will be accepted, the effect of that uncertainty is reflected at either the most likely amount or the expected value, taking into account a range of possible outcomes.

Tax provisions in the condensed consolidated statement of financial position were €8 million and €5 million as of June 30, 2021 and December 31, 2020, respectively. The year to date increase primarily reflects estimates of uncertain tax positions that have a gross impact of €38 million (before utilization of loss carry forwards). Interest and penalties included in income tax expense were not material in any of the periods presented. Due to the uncertainty associated with our tax positions, any future agreement with the tax authorities could have a significant impact on our results of operations, financial condition and cash flows.

Net deferred tax assets of €17 million and €15 million have been recorded in the condensed consolidated statement of financial position as of June 30, 2021 and December 31, 2020, respectively. In evaluating the probability of realizing the deferred tax assets, the Group considered all available positive and negative evidence of future tax profit, primarily past operating results. As of June 30, 2021 and December 31, 2020, deferred tax assets of €522 million and €535 million have not been recognized.

8. (Loss)/earnings per share

Basic (loss)/earnings per share is computed using the weighted-average number of outstanding ordinary shares during the period. Diluted (loss)/earnings per share is computed using the weighted-average number of outstanding ordinary shares and potential outstanding ordinary shares during the period. Potential ordinary shares, which are based on the weighted-average ordinary shares underlying outstanding stock options, restricted stock units, restricted stock awards, other contingently issuable shares, warrants, and Exchangeable Notes and computed using the treasury stock method or the if-converted method, as applicable, are included when calculating diluted (loss)/earnings per share when their effect is dilutive. The computation of (loss)/earnings per share for the respective periods is as follows:

	Three months ended June 30,		Six months ended June 30,	
	2021	2020	2021	2020
	(in € millions, except share and per share data)			
Basic (loss)/earnings per share				
Net (loss)/income attributable to owners of the parent	(20)	(356)	3	(355)
Shares used in computation:				
Weighted-average ordinary shares outstanding	191,172,946	186,552,877	190,870,850	185,799,600
Basic (loss)/earnings per share attributable to owners of the parent	**(0.10)**	**(1.91)**	**0.02**	**(1.91)**
Diluted (loss)/earnings per share				
Net (loss)/income attributable to owners of the parent	(20)	(356)	3	(355)
Fair value gains on dilutive Exchangeable Notes	(17)	—	(66)	—
Fair value gains on dilutive warrants	—	—	(21)	—
Net (loss)/income used in the computation of diluted (loss)/earnings per share	(37)	(356)	(84)	(355)
Shares used in computation:				
Weighted-average ordinary shares outstanding	191,172,946	186,552,877	190,870,850	185,799,600
Exchangeable Notes	2,911,500	—	1,919,670	—
Warrants	—	—	260,760	—
Diluted weighted-average ordinary shares	194,084,446	186,552,877	193,051,280	185,799,600
Diluted (loss)/earnings per share attributable to owners of the parent	**(0.19)**	**(1.91)**	**(0.44)**	**(1.91)**

Potential dilutive securities that were not included in the diluted loss per share calculations because they would be anti-dilutive were as follows:

	Three months ended June 30,		Six months ended June 30,	
	2021	2020	2021	2020
Stock options	9,335,986	10,569,767	9,335,986	10,569,767
Restricted stock units	1,462,270	1,379,624	1,462,270	1,379,624
Restricted stock awards	—	41,280	—	41,280
Other contingently issuable shares	108,720	156,190	108,720	156,190
Warrants	800,000	2,400,000	—	2,400,000

9. Leases

The Group leases certain properties under non-cancellable lease agreements that relate to office space. The expected lease terms are up to thirteen years. The Group currently does not act in the capacity of a lessor.

Below is the roll-forward of lease right-of-use assets:

Right-of-use assets

	(in € millions)
Cost	
At January 1, 2021	**581**
Increases	13
Decreases	(2)
Exchange differences	13
At June 30, 2021	**605**
Accumulated depreciation	
At January 1, 2021	**(137)**
Depreciation charge	(26)
Decreases	2
Exchange differences	(3)
At June 30, 2021	**(164)**
Cost, net accumulated depreciation	
At January 1, 2021	**444**
At June 30, 2021	**441**

Below is the roll-forward of lease liabilities:

Lease liabilities	**2021**	**2020**
	(in € millions)	
At January 1	**608**	**628**
Increases	13	14
Payments	(40)	(40)
Interest expense	20	21
Lease incentives received	—	7
Increases in lease incentives receivable	—	1
Exchange differences	13	(4)
At June 30	**614**	**627**

Below is the maturity analysis of lease liabilities:

Lease liabilities	**June 30, 2021**
Maturity Analysis	**(in € millions)**
Less than one year	86
One to five years	344
More than five years	454
Total lease commitments	**884**
Impact of discounting remaining lease payments	(279)
Lease incentives receivable	9
Total lease liabilities	**614**
Lease liabilities included in the condensed consolidated statement of financial position	
Current	38
Non-current	576
Total	**614**

Excluded from the lease commitments above are short-term leases. Expenses relating to short term leases were approximately €2 million and €2 million for the three months ended June 30, 2021 and 2020, respectively, and €4 million and €5 million for the six months ended June 30, 2021 and 2020, respectively. Additionally, the Group has entered into certain lease agreements with approximately €20 million of commitments, which have not commenced as of June 30, 2021, and as such, have not been recognized in the condensed consolidated statement of financial position.

The weighted-average incremental borrowing rate applied to lease liabilities recognized in the condensed consolidated statement of financial position as of June 30, 2021 was 6.3%.

10. Property and equipment

	Property and equipment	**Leasehold improvements**	**Total**
		(in € millions)	
Cost			
At January 1, 2021	**56**	**346**	**402**
Additions	3	46	49
Disposals	(1)	(1)	**(2)**
Exchange differences	1	10	11
At June 30, 2021	**59**	**401**	**460**
Accumulated depreciation			
At January 1, 2021	**(36)**	**(53)**	**(89)**
Depreciation charge	(4)	(15)	(19)
Disposals	—	1	**1**
Exchange differences	(1)	(1)	(2)
At June 30, 2021	**(41)**	**(68)**	**(109)**
Cost, net accumulated depreciation			
At January 1, 2021	**20**	**293**	**313**
At June 30, 2021	**18**	**333**	**351**

The Group had €100 million and €59 million of leasehold improvements that were not placed into service as of June 30, 2021 and December 31, 2020, respectively.

11. Goodwill and intangible assets

	Internal development costs and patents	Acquired intangible assets	Total	Goodwill	Total
			(in € millions)		
Cost					
At January 1, 2021	**64**	**91**	**155**	**736**	**891**
Additions	9	—	9	—	9
Acquisition, business combination (Note 4)	—	4	4	96	100
Exchange differences	—	2	2	19	21
At June 30, 2021	**73**	**97**	**170**	**851**	**1,021**
Accumulated amortization					
At January 1, 2021	**(31)**	**(27)**	**(58)**	**—**	**(58)**
Amortization charge	(8)	(8)	(16)	—	(16)
Exchange differences	—	(1)	(1)	—	(1)
At June 30, 2021	**(39)**	**(36)**	**(75)**	**—**	**(75)**
Cost, net accumulated amortization					
At January 1, 2021	**33**	**64**	**97**	**736**	**833**
At June 30, 2021	**34**	**61**	**95**	**851**	**946**

Amortization charges related to intangible assets of €7 million and €4 million are included in research and development in the condensed consolidated statement of operations during the three months ended June 30, 2021 and 2020, respectively. Amortization charges related to intangible assets of €13 million and €8 million are included in research and development in the condensed consolidated statement of operations during the six months ended June 30, 2021 and 2020, respectively. There were no impairment charges for goodwill or intangible assets for the three and six months ended June 30, 2021 and 2020, respectively.

12. Restricted cash and other non-current assets

	June 30, 2021	December 31, 2020
	(in € millions)	
Restricted cash		
Lease deposits and guarantees	49	48
Other	1	1
Other non-current assets	28	29
	78	**78**

13. Trade and other receivables

	June 30, 2021	December 31, 2020
	(in € millions)	
Trade receivables	357	323
Less: allowance for expected credit losses	(5)	(4)
Trade receivables - net	352	319
Other receivables	140	145
	492	**464**

14. Other current assets

	June 30, 2021	December 31, 2020
	(in € millions)	
ıssets	121	92
:xpenses and other	66	47
/e assets	14	12
	201	**151**

Content asset amortization of €26 million and €7 million is included in cost of revenue in the condensed consolidated statement of operations for the three months ended June 30, 2021 and 2020, respectively. Content asset amortization of €49 million and €14 million is included in cost of revenue in the condensed consolidated statement of operations for the six months ended June 30, 2021 and 2020, respectively.

15. Equity and other reserves

As of June 30, 2021 and December 31, 2020, the Company had 194,614,910 and 193,614,910 ordinary shares issued and fully paid, respectively, with 3,258,898 and 3,402,063 ordinary shares held as treasury shares, respectively.

For the three and six months ended June 30, 2021, the Company repurchased 1,000,000 of its own ordinary shares and reissued 377,569 and 1,143,165 treasury shares, respectively, upon the exercise of stock options, restricted stock units, and contingently issuable shares. For the three and six months ended June 30, 2020, the Company repurchased 2,012,200 of its own ordinary shares and reissued 1,381,078 and 3,009,720 treasury shares, respectively, upon the exercise of stock options, restricted stock units, and contingently issuable shares.

On April 26, 2021, the Company issued 1,000,000 ordinary shares to its Netherlands subsidiary at par value and subsequently repurchased those shares at the same price. These shares are held in treasury in order to facilitate the fulfillment of option exercises and restricted stock unit releases under the Company's stock option and restricted stock unit plans.

As of June 30, 2021 and December 31, 2020, the Group's founders held 357,963,120 and 365,014,840 beneficiary certificates, respectively.

Other reserves

	2021	2020
	(in € millions)	
Currency translation		
At January 1	**(54)**	**(11)**
Currency translation	24	(2)
At June 30	**(30)**	**(13)**
Short term investments		
At January 1	**5**	**1**
(Losses)/gains on fair value that may be subsequently reclassified to condensed consolidated statement of operations	(3)	11
Gains reclassified to condensed consolidated statement of operations	(1)	(2)
Deferred tax	1	(2)
At June 30	**2**	**8**
Long term investments		
At January 1	**1,059**	**444**
(Losses)/gains on fair value not to be subsequently reclassified to condensed consolidated statement of operations	(378)	220
Deferred tax	78	(46)
At June 30	**759**	**618**
Cash flow hedges		
At January 1	**(3)**	**(4)**
(Losses)/gains on fair value that may be subsequently reclassified to condensed consolidated statement of operations	(7)	10
Losses/(gains) reclassified to revenue	28	(8)
(Gains)/losses reclassified to cost of revenue	(22)	5
Deferred tax	—	(1)
At June 30	**(4)**	**2**
Share-based compensation		
At January 1	**680**	**494**
Share-based compensation	113	90
Income tax impact associated with share-based compensation	9	(4)
Restricted stock units withheld for employee taxes	(28)	(8)
At June 30	**774**	**572**
Other reserves at June 30	**1,501**	**1,187**

16. Share-based compensation

The expense recognized in the condensed consolidated statement of operations for share-based compensation is as follows:

	Three months ended June 30,		Six months ended June 30,	
	2021	2020	2021	2020
	(in € millions)			
Cost of revenue	2	2	4	3
Research and development	36	23	60	41
Sales and marketing	12	10	21	17
General and administrative	18	15	31	26
	68	**50**	**116**	**87**

During the six months ended June 30, 2021, the Company implemented a new restricted stock unit ("RSU") program for executives and employees of the Group and for members of its Board of Directors (the "2021 RSU Plan"). Both are accounted for as equity-settled share-based compensation transactions. The RSUs are measured based on the fair market value of the underlying ordinary shares on the date of grant. The RSUs granted to participants under the 2021 RSU Plan have a first vesting period of three or eight months from date of grant and vest monthly or annually thereafter until fully vested four years from date of grant. The valuation of the RSUs was consistent with the fair value of the ordinary shares.

Activity in the Group's RSUs and other contingently issuable shares outstanding and related information is as follows:

	RSUs		Other	
	Number of RSUs	Weighted average grant date fair value	Number of Awards	Weighted average grant date fair value
		US$		US$
Outstanding at January 1, 2021	**1,320,193**	**155.98**	**156,190**	**145.19**
Granted	441,716	303.66	22,988	261.00
Forfeited	(54,067)	181.24	—	—
Released	(245,572)	166.12	(70,458)	182.98
Outstanding at June 30, 2021	**1,462,270**	**197.95**	**108,720**	**145.19**

In the table above, the number of RSUs and other contingently issuable shares released include ordinary shares that the Group has withheld for settlement of employees' tax obligations due upon the vesting of RSUs and other contingently issuable shares.

During the six months ended June 30, 2021, the Company implemented a new Employee Stock Option Plan and Director Stock Option Plan (the "2021 Stock Option Plan"), under which stock options of the Company are granted to executives and employees of the Group and to members of the Company's Board of Directors, respectively. For options granted under the 2021 Stock Option Plan, the exercise price is equal to the fair value of the ordinary shares on grant date or equal to 150% of the fair value of the ordinary shares on grant date. The exercise price is included in the grant date fair value of the award. The options granted to participants under the 2021 Stock Option Plan have a first vesting period of three or eight months from date of grant and vest monthly or annually thereafter until fully vested. The options are granted with a term of five years.

Activity in the Group's stock options outstanding and related information is as follows:

	Options	
	Number of options	Weighted average exercise price
		US$
Outstanding at January 1, 2021	**9,041,288**	**138.60**
Granted	1,430,229	340.03
Forfeited	(157,942)	179.74
Exercised	(971,284)	96.85
Expired	(6,305)	161.87
Outstanding at June 30, 2021	**9,335,986**	**173.09**
Exercisable at January 1, 2021	**4,022,751**	**113.91**
Exercisable at June 30, 2021	**4,357,486**	**130.26**

The weighted-average contractual life for the stock options outstanding at June 30, 2021 was 2.9 years. The weighted average share price at exercise for options exercised during the six months ended June 30, 2021 was US$301.23. The weighted average fair value of options granted during the six months ended June 30, 2021 was US$83.47 per option.

The following table lists the inputs to the Black-Scholes option-pricing models used for share-based payments for the three and six months ended June 30, 2021 and 2020:

	Three months ended June 30,		Six months ended June 30,	
	2021	2020	2021	2020
Expected volatility (%)	33.2 - 42.9	32.4 - 38.3	33.2 - 42.9	30.0 - 38.3
Risk-free interest rate (%)	0.3 - 0.8	0.2 - 0.4	0.2 - 0.8	0.2 - 1.7
Expected life of stock options (years)	2.6 - 4.8	2.6 - 4.8	2.6 - 4.8	2.6 - 4.8
Weighted average share price (US$)	252.80	143.12	303.39	139.46

17. Exchangeable Notes

On March 2, 2021, the Company's wholly owned subsidiary, Spotify USA Inc. (the "Issuer"), issued US$1,500 million aggregate principal amount of 0% Exchangeable Notes due 2026, which included the initial purchasers' exercise in full of their option to purchase an additional US$200 million principal amount of the Exchangeable Notes. The Exchangeable Notes will mature on March 15, 2026, unless earlier repurchased, redeemed or exchanged. The Exchangeable Notes are fully and unconditionally guaranteed, on a senior, unsecured basis by the Company.

The net proceeds from the issuance of the Exchangeable Notes were €1,223 million after deducting transaction costs of €18 million. The transaction costs were immediately expensed and included in finance costs in the condensed consolidated statement of operations for the six months ended June 30, 2021.

The Exchangeable Notes are the Issuer's senior unsecured obligations and are equal in right of payment with the Issuer's future senior, unsecured indebtedness, senior in right of payment to the Issuer's future indebtedness that is expressly subordinated to the Exchangeable Notes and effectively subordinated to the Issuer's future secured indebtedness, to the extent of the value of the collateral securing that indebtedness. The Exchangeable Notes will be structurally subordinated to all future indebtedness and other liabilities, including trade payables, and (to the extent the Issuer is not a holder thereof) preferred equity, if any, of the Issuer's subsidiaries.

The noteholders may exchange their Exchangeable Notes at their option into consideration that consists, at the Issuer's election, of cash, ordinary shares of the Company, or a combination of cash and ordinary shares, but only in the following circumstances:

(1) during any calendar quarter commencing after the calendar quarter ending on June 30, 2021, if the last reported sale price per ordinary share exceeds 130% of the exchange price for each of at least 20 trading days during the 30 consecutive trading days ending on, and including, the last trading day of the immediately preceding calendar quarter;

(2) during the five consecutive business days immediately after any 10 consecutive trading day period (such 10 consecutive trading day period, the "measurement period") in which the trading price per $1,000 principal amount of Exchangeable Notes for each trading day of the measurement period was less than 98% of the product of the last reported sale price per ordinary share on such trading day and the exchange rate on such trading day;

(3) upon the occurrence of certain corporate events or distributions on the ordinary shares as set forth in the indenture governing the Exchangeable Notes (the "Indenture");

(4) if the Issuer calls such Exchangeable Notes for redemption; and

(5) at any time from, and including, December 15, 2025 until the close of business on the second scheduled trading day immediately before the maturity date.

The initial exchange rate is 1.9410 ordinary shares per US$1,000 principal amount of Exchangeable Notes, which represents an initial exchange price of approximately US$515.20 per ordinary share. The exchange rate and exchange price will be subject to customary adjustments upon the occurrence of certain events as set forth in the Indenture. In addition, if certain corporate events that constitute a make-whole fundamental change occur as set forth in the Indenture, then the exchange rate will, in certain circumstances, be increased for a specified period of time.

The circumstances required to allow the noteholders to exchange their Exchangeable Notes were not met during the six months ended June 30, 2021.

The Exchangeable Notes will not be redeemable prior to March 20, 2024, except in the event of certain tax law changes as set forth in the Indenture. The Exchangeable Notes will be redeemable, in whole or in part, at the Issuer's option at any time, and from time to time, on or after March 20, 2024 and on or before the 40th scheduled trading day immediately before the maturity date, at a cash redemption price equal to the principal amount of the Exchangeable Notes to be redeemed, plus accrued and unpaid special and additional interest, if any, but only if the last reported sale price per ordinary share exceeds 130% of the exchange price on:

(1) each of at least 20 trading days, whether or not consecutive, during the 30 consecutive trading days ending on, and including, the trading day immediately before the date the Issuer sends the related redemption notice; and

(2) the trading day immediately before the date the Issuer sends such notice.

In addition, the Issuer will have the right to redeem all, but not less than all, of the Exchangeable Notes if certain changes in tax law as set forth in the Indenture occur. In addition, calling any Exchangeable Note for redemption will constitute a make-whole fundamental change with respect to that Exchangeable Note, in which case the exchange rate applicable to the exchange of that Exchangeable Note will be increased in certain circumstances if it is exchanged after it is called for redemption.

Upon the occurrence of a "fundamental change" as set forth in the Indenture, noteholders may require the Issuer to repurchase their Exchangeable Notes at a cash repurchase price equal to the principal amount of the Exchangeable Notes to be repurchased, plus accrued and unpaid special and additional interest, if any, to, but excluding, the fundamental change repurchase date as set forth in the Indenture.

The Group accounted for the Exchangeable Notes at fair value through profit and loss using the fair value option in accordance with IFRS 9, Financial Instruments. Under this approach, the Exchangeable Notes are accounted for in their entirety at fair value, with any change in fair value after initial measurement being recorded in finance income or cost in condensed consolidated statement of operations, except that changes in fair value that are due to changes in own credit risk are presented separately in other comprehensive (loss)/income and will not be reclassified to the condensed consolidated statement of operations.

The fair value of the Exchangeable Notes as of June 30, 2021 was €1,199 million. See Note 21 for information regarding the key inputs and assumptions used to estimate the fair value of the Exchangeable Notes.

18. Trade and other payables

	June 30, 2021	December 31, 2020
	(in € millions)	
Trade payables	485	434
Value added tax and sales taxes payable	205	181
Other current liabilities	15	23
	705	**638**

19. Accrued expenses and other liabilities

	June 30, 2021	December 31, 2020
	(in € millions)	
Non-current		
Other accrued liabilities	36	42
	36	**42**
Current		
Accrued fees to rights holders	1,225	1,265
Accrued salaries, vacation, and related taxes	91	65
Accrued social costs for options and RSUs	133	169
Other accrued expenses	258	249
	1,707	**1,748**

20. Provisions

	Legal contingencies	Indirect tax	Other	Total
		(in € millions)		
Carrying amount at January 1, 2021	**4**	**11**	**7**	**22**
Charged/(credited) to the condensed statement of operations:				
Additional provisions	—	—	2	2
Reversal of unutilized amounts	—	—	(1)	(1)
Utilized	—	—	(1)	(1)
Carrying amount at June 30, 2021	**4**	**11**	**7**	**22**
As at January 1, 2021				
Current portion	**4**	**11**	**5**	**20**
Non-current portion	**—**	**—**	**2**	**2**
As at June 30, 2021				
Current portion	**4**	**11**	**5**	**20**
Non-current portion	**—**	**—**	**2**	**2**

Various legal actions, proceedings, and claims are pending or may be instituted or asserted against the Group. The results of such legal proceedings are difficult to predict and the extent of the Group's financial exposure is difficult to estimate. The Group records a provision for contingent losses when it is both probable that a liability has been incurred, and the amount of the loss can be reasonably estimated.

21. Financial instruments

Foreign exchange forward contracts

Cash flow hedges

The Group's currency pairs used for cash flow hedges are Euro / U.S. dollar, Euro / Australian dollar, Euro / British pound, Euro / Swedish krona, Euro / Canadian dollar, and Euro / Norwegian krone. The notional principal of foreign exchange contracts hedging the revenue and cost of revenue line items in the condensed consolidated statement of operations was approximately €1,117 million and €781 million, respectively, as of June 30, 2021, and approximately €993 million and €703 million, respectively, as of December 31, 2020.

Fair values

The carrying amounts of certain financial instruments, including cash and cash equivalents, trade and other receivables, restricted cash, trade and other payables, and accrued expenses and other liabilities approximate fair value due to their relatively short maturities. All other financial assets and liabilities are accounted for at fair value.

The following tables summarize, by major security type, the Group's financial assets and liabilities that are measured at fair value on a recurring basis, and the category using the fair value hierarchy:

	Quoted Prices in Active Markets for Identical Assets (Level 1)	Significant Other Observable Inputs (Level 2)	Significant Unobservable Inputs (Level 3)	June 30, 2021
		(in € millions)		
Financial assets at fair value				
Cash equivalents:				
Money market funds	1,704	—	—	1,704
Short term investments:				
Money market funds	25	—	—	25
Government securities	210	21	—	231
Corporate notes	—	282	—	282
Collateralized reverse purchase agreements	—	64	—	64
Other	10	—	—	10
Derivatives (designated for hedging):				
Foreign exchange forwards	—	14	—	14
Long term investments	1,846	—	51	1,897
Total financial assets at fair value	**3,795**	**381**	**51**	**4,227**
Financial liabilities at fair value				
Exchangeable Notes	—	—	1,199	1,199
Derivatives (not designated for hedging):				
Warrants	—	—	67	67
Derivatives (designated for hedging):				
Foreign exchange forwards	—	20	—	20
Contingent consideration	—	—	16	16
Total financial liabilities at fair value	**—**	**20**	**1,282**	**1,302**

	Quoted Prices in Active Markets for Identical Assets (Level 1)	Significant Other Observable Inputs (Level 2)	Significant Unobservable Inputs (Level 3)	December 31, 2020
		(in € millions)		
Financial assets at fair value				
Cash equivalents:				
Money market funds	685	—	—	685
Short term investments:				
Money market funds	25	—	—	25
Government securities	198	31	—	229
Agency securities	—	4	—	4
Corporate notes	—	276	—	276
Collateralized reverse purchase agreements	—	62	—	62
Derivatives (designated for hedging):				
Foreign exchange forwards	—	12	—	12
Long term investments	2,228	—	49	2,277
Total financial assets at fair value	**3,136**	**385**	**49**	**3,570**
Financial liabilities at fair value				
Derivatives (not designated for hedging):				
Warrants	—	—	89	89
Derivatives (designated for hedging):				
Foreign exchange forwards	—	16	—	16
Contingent consideration	—	—	30	30
Total financial liabilities at fair value	**—**	**16**	**119**	**135**

The Group's policy is to recognize transfers into and transfers out of fair value hierarchy levels at the end of each reporting period. During the six months ended June 30, 2021, there were no transfers between levels in the fair value hierarchy.

Recurring fair value measurements

Long term investment - Tencent Music Entertainment Group

The Group's approximate 8% investment in TME is carried at fair value through other comprehensive (loss)/income. The fair value of ordinary shares of TME is based on the ending New York Stock Exchange American depository share price. The fair value of the investment in TME may vary over time and is subject to a variety of risks including: company performance, macro-economic, regulatory, industry, USD to Euro exchange rate and systemic risks of the equity markets overall.

The table below presents the changes in the investment in TME:

	2021	2020
	(in € millions)	
At January 1	**2,228**	**1,481**
Changes in fair value recorded in other comprehensive (loss)/income	(382)	214
At June 30	**1,846**	**1,695**

The impact on the fair value of the Group's long term investment in TME with a decrease or increase of TME's share price used to value the Group's equity interest of 10% results in a range of €1,662 million to €2,031 million at June 30, 2021.

The following sections describe the valuation methodologies the Group uses to measure its Level 3 financial instruments at fair value on a recurring basis.

Long term investments - Other

The Group has interests in certain long term investments. The majority of these investments are in unlisted equity securities carried at fair value through other comprehensive (loss)/income. The fair values of these equity investments are generally determined by (i) applying market multiples to the projected financial performance and (ii) discounting the future value to its present value equivalent. The key assumptions used to estimate the fair value of these equity investments include the exit multiple used to estimate business enterprise value and discount rate.

The fair value of the long term investments may vary over time and is subject to a variety of risks including: company performance, macroeconomic, regulatory, industry, USD to Euro exchange rate, and systemic risks of the overall equity markets.

The table below presents the changes in the other long term investments:

	2021	2020
	(in € millions)	
At January 1	**49**	**16**
Initial recognition of long term investment	—	9
Changes in fair value recorded in other comprehensive (loss)/income	4	7
Changes in fair value recognized in condensed consolidated statement of operations	(3)	(2)
Effect of changes in foreign exchange rates	1	—
At June 30	**51**	**30**

Warrants

As of June 30, 2021 and December 31, 2020, the number of outstanding warrants was 800,000.

The outstanding warrants are valued using a Black-Scholes option-pricing model. Assumptions used to estimate the fair value of the warrants in the option pricing model are as follows:

	June 30, 2021
Expected term (years)	1.0
Risk free rate (%)	0.1
Volatility (%)	55.0
Share price (US$)	275.59

The table below presents the changes in the warrants liability:

	2021	2020
	(in € millions)	
At January 1	**89**	**98**
Non-cash changes recognized in condensed consolidated statement of operations		
Changes in fair value recognized in condensed consolidated statement of operations	(24)	204
Effect of changes in foreign exchange rates	2	—
At June 30	**67**	**302**

The impact on the fair value of the outstanding warrants with a decrease or increase in the Company's ordinary share price of 10% results in a range of €53 million to €82 million at June 30, 2021.

Contingent consideration

On April 1, 2019, the Group acquired Cutler Media, LLC ("Parcast"), a premier storytelling podcast studio. Included in the purchase price was €13 million related to the estimated fair value of contingent consideration. The contingent consideration is valued by the Group using a simulation of user engagement outcomes. The change in the fair value of the contingent consideration is recognized within general and administrative expenses in the condensed consolidated statement of operations.

The table below presents the changes in the contingent consideration liability:

	2021	2020
	(in € millions)	
At January 1	**30**	**27**
Contingent consideration payments	(17)	(7)
Changes in fair value recognized in condensed consolidated statement of operations	2	4
Effect of changes in foreign exchange rates	1	—
At June 30	**16**	**24**

As of June 30, 2021, the remaining maximum potential contingent consideration payout is €17 million over the next year.

Exchangeable Notes

On March 2, 2021, Spotify USA, Inc. issued US$1,500 million principal amount of 0% Exchangeable Notes due in 2026. The Exchangeable Notes are measured on a recurring basis in the condensed consolidated statement of financial position and are Level 3 financial instruments recognized at fair value through the condensed consolidated statement of operations.

The table below presents the changes in the Exchangeable Notes:

	2021
	(in € millions)
At January 1	**—**
Initial recognition	1,232
Changes in fair value recognized in condensed consolidated statement of operations	(66)
Effect of changes in foreign exchange rates	33
At June 30	**1,199**

The change in estimated fair value is recognized within finance income/(costs) in the condensed consolidated statement of operations, excluding changes in fair value due to changes in the Group's own credit risk, which are recognized in other comprehensive (loss)/income and will not be reclassified to the condensed consolidated statement of operations.

The fair value of the Exchangeable Notes was estimated using a combination of a binomial option pricing model and prices observed for the Exchangeable Notes in an over-the-counter market on the last trading day of the reporting period. A weight of 75% was applied to the binomial option pricing model and a weight of 25% was applied to the price of the Exchangeable Notes in the over-the-counter market on the last trading day of the reporting period. The key assumptions used in the binomial option pricing model for the Exchangeable Notes were as follows:

	June 30, 2021
Risk free rate (%)	**0.8**
Discount rate (%)	**3.6**
Volatility (%)	**40.0**
Share price (US$)	**275.59**

The impact on the fair value of the Exchangeable Notes of using reasonably possible alternative assumptions with a decrease or increase in volatility of 10% results in a range of €1,156 million to €1,243 million at June 30, 2021. The impact on the fair value of the Exchangeable Notes of using reasonably possible alternative assumptions with a decrease or increase in share price of 10% results in a range of €1,177 million to €1,223 million at June 30, 2021.

22. Commitments and contingencies

Commitments

The Group is subject to the following minimum guarantees relating to the content on its Service, the majority of which relate to minimum royalty payments associated with its license agreements for the use of licensed content:

	June 30, 2021	December 31, 2020
	(in € millions)	
Not later than one year	508	317
Later than one year but not more than 5 years	2,765	3,259
	3,273	**3,576**

In addition, the Group is subject to the following various non-cancelable purchase obligations and service agreements with minimum spend commitments, including a service agreement with Google for the use of Google Cloud Platform and certain podcast commitments:

	June 30, 2021	December 31, 2020
	(in € millions)	
Not later than one year	205	279
Later than one year but not more than 5 years	724	619
	929	**898**

Contingencies

Various legal actions, proceedings, and claims are pending or may be instituted or asserted against the Group. These may include, but are not limited to, matters arising out of alleged infringement of intellectual property; alleged violations of consumer regulations; employment-related matters; and disputes arising out of supplier and other contractual relationships. As a general matter, the music and other content made available on the Group's Service are licensed to the Group by various third parties. Many of these licenses allow rights holders to audit the Group's royalty payments, and any such audit could result in disputes over whether the Group has paid the proper royalties. If such a dispute were to occur, the Group could be required to pay additional royalties, and the amounts involved could be material. The Group expenses legal fees as incurred. The Group records a provision for contingent losses when it is both probable that a liability has been incurred and the amount of the loss can be reasonably estimated. An unfavorable outcome to any legal matter, if material, could have an adverse effect on the Group's operations or its financial position, liquidity, or results of operations.

As of April 2019, the Group's settlement of the *Ferrick et al. v. Spotify USA Inc.*, No. 1:16-cv-8412-AJN (S.D.N.Y.), putative class action lawsuit, which alleged that the Group unlawfully reproduced and distributed musical compositions without obtaining licenses, was final and effective. Even with the effectiveness of the settlement, we may still be subject to claims of copyright infringement by rights holders who have purported to opt out of the settlement or who may not otherwise be covered by its terms. The Music Modernization Act of 2018 contains a limitation of liability with respect to such lawsuits filed on or after January 1, 2018. Rights holders may, nevertheless, file lawsuits, and may argue that they should not be bound by this limitation of liability. For example, in August 2019, the *Eight Mile Style, LLC et al v. Spotify USA Inc.*, No. 3:19-cv-00736-AAT, lawsuit was filed against us in the U.S. District Court for the Middle District of Tennessee, alleging both that the Group does not qualify for the limitation of liability in the Music Modernization Act and that the limitation of liability is unconstitutional and, thus, not valid law. The Group intends to vigorously defend this lawsuit, including plaintiffs' challenges to the limitation of liability in the Music Modernization Act.

On August 11, 2020, the United States Court of Appeals for the D.C. Circuit issued an opinion which, as of the issuance of the formal “mandate” on October 26, 2020, vacated the Copyright Royalty Board’s determination of the royalty rates for applicable mechanical rights in the United States for calendar years 2018 to 2022. These rates apply both to compositions that we license under compulsory license in Section 115 of the Copyright Act of 1976 and to a number of direct licenses that we have with music publishers. Until the rates are determined, our recorded royalty costs both retrospectively and prospectively will be based on management estimates of the rates that will apply. When the rates are determined anew, these could either benefit or adversely affect our results of operations and financial condition.

Item 2. Management's Discussion and Analysis of Financial Condition and Results of Operations

Special Note Regarding Forward-Looking Statements

This discussion and analysis reflects our historical results of operations and financial position and contains estimates and forward-looking statements. All statements other than statements of historical fact are forward-looking statements. The words "may," "might," "will," "could," "would," "should," "expect," "plan," "anticipate," "intend," "seek," "believe," "estimate," "predict," "potential," "continue," "contemplate," "possible," and similar words are intended to identify estimates and forward-looking statements.

Our estimates and forward-looking statements are mainly based on our current expectations and estimates of future events and trends, which affect or may affect our businesses and operations. Although we believe that these estimates and forward-looking statements are based upon reasonable assumptions, they are subject to numerous risks and uncertainties and are made in light of information currently available to us. Many important factors may adversely affect our results as indicated in forward-looking statements. These factors include, but are not limited to:

- our ability to attract prospective users and to retain existing users;
- competition for users, user listening time, and advertisers;
- risks associated with our international expansion and our ability to manage our growth;
- our ability to predict, recommend, and play content that our users enjoy;
- our ability to effectively monetize our Service;
- our ability to generate sufficient revenue to be profitable or to generate positive cash flow and grow on a sustained basis;
- risks associated with the expansion of our operations to deliver non-music content, including podcasts, including increased business, legal, financial, reputational, and competitive risks;
- potential disputes or liabilities associated with content made available on our Service;
- risks relating to the acquisition, investment, and disposition of companies or technologies;
- our dependence upon third-party licenses for most of the content we stream;
- our lack of control over the providers of our content and their effect on our access to music and other content;
- our ability to comply with the many complex license agreements to which we are a party;
- our ability to accurately estimate the amounts payable under our license agreements;
- the limitations on our operating flexibility due to the minimum guarantees required under certain of our license agreements;
- our ability to obtain accurate and comprehensive information about the compositions embodied in sound recordings in order to obtain necessary licenses or perform obligations under our existing license agreements;
- new copyright legislation and related regulations that may increase the cost and/or difficulty of music licensing;
- assertions by third parties of infringement or other violations by us of their intellectual property rights;
- our ability to protect our intellectual property;
- the dependence of streaming on operating systems, online platforms, hardware, networks, regulations, and standards that we do not control;
- potential breaches of our security systems or systems of third parties, including as a result of our Work From Anywhere program;
- interruptions, delays, or discontinuations in service in our systems or systems of third parties;
- changes in laws or regulations affecting us;
- risks relating to privacy and protection of user data;
- our ability to maintain, protect, and enhance our brand;
- payment-related risks;
- ability to hire and retain key personnel, and challenges to productivity and integration as a result of our Work From Anywhere program;
- our ability to accurately estimate our user metrics and other estimates;
- risks associated with manipulation of stream counts and user accounts and unauthorized access to our services;
- tax-related risks;
- the concentration of voting power among our founders who have and will continue to have substantial control over our business;
- risks related to our status as a foreign private issuer;
- international, national or local economic, social or political conditions;
- risks associated with accounting estimates, currency fluctuations and foreign exchange controls;

- the impact of the COVID-19 pandemic on our business and operations, including any adverse impact on advertising sales or subscriber revenue.
- risks related to our debt, including limitations on our cash flow for operations and our ability to satisfy our obligations under the Exchangeable Notes;
- our ability to raise the funds necessary to repurchase the Exchangeable Notes for cash, under certain circumstances, or to pay any cash amounts due upon exchange;
- provisions in the indenture governing the Exchangeable Notes (the "Indenture") delaying or preventing an otherwise beneficial takeover of us; and
- any adverse impact on our reported financial condition and results from the accounting method for the Exchangeable Notes.

We operate in an evolving environment. New risk factors and uncertainties emerge from time to time, and it is not possible for our management to predict all risk factors and uncertainties, nor are we able to assess the impact of all of these risk factors on our business or the extent to which any risk factor, or combination of risk factors, may cause actual results to differ materially from those contained in any forward-looking statements.

We qualify all of our forward-looking statements by these cautionary statements. For additional information, refer to the risk factors discussed under Part II, Item 1A. "Risk Factors" below, Part I, Item 3.D. "Risk Factors" in our Annual Report on Form 20-F for the year ended December 31, 2020 ("Annual Report on Form 20-F"), and in our other filings with the U.S. Securities and Exchange Commission ("SEC").

You should read this discussion and analysis completely and with the understanding that our actual future results may be materially different from our expectations.

Investors and others should note that we announce material financial information to our investors using our Investors website (investors.spotify.com), SEC filings, press releases, public conference calls, and webcasts. We use these channels, as well as social media, to communicate with our users and the public about our company, our Service, and other issues. It is possible that the information we post on these channels could be deemed to be material information. Therefore, we encourage investors, the media, and others interested in our Company to review the information we post on the channels listed on our Investors website.

Overview

Our mission is to unlock the potential of human creativity by giving a million creative artists the opportunity to live off their art and billions of fans the opportunity to enjoy and be inspired by these creators.

We are the most popular global audio streaming subscription service with a presence in 178 countries and territories and growing, including our February 2021 launch in South Korea and 85 other countries and territories across Asia, Africa, the Caribbean, Europe and Latin America. Our platform includes 365 million monthly active users ("MAUs") and 165 million Premium Subscribers (as defined below) as of June 30, 2021.

We currently monetize our Service through both subscriptions and advertising. Our Premium Subscribers have grown 20% year-over-year, as of June 30, 2021, to 165 million. Our 365 million MAUs have grown 22% year-over-year, as of June 30, 2021.

Our results reflect the effects of our trial programs, both discounted and free trials, in addition to seasonal trends in user behavior and, with respect to our Ad-Supported segment, advertising behavior. Historically, Premium Subscriber growth accelerates when we run such trial programs.

For our Ad-Supported segment, typically we experience higher advertising revenue in the fourth quarter of each calendar year due to greater advertising demand during the holiday season. However, in the first quarter of each calendar year, we typically experience a seasonal decline in advertising revenue due to reduced advertiser demand.

Acquisition

On March 29, 2021, we acquired Betty Labs for a total purchase consideration of €57 million. The acquisition allows us to accelerate our entry into the live audio space.

Exchangeable Notes

On March 2, 2021, Spotify USA Inc. issued US$1,500 million in aggregate principal amount of 0% Exchangeable Notes due 2026. Net proceeds from the issuance of the Exchangeable Notes were €1,223 million after deducting the transaction costs. We intend to use the net proceeds for general corporate purposes. See Note 17 to our interim condensed consolidated financial statements for further information regarding our Exchangeable Notes.

Employee Matters

During the six months ended June 30, 2021, we entered into collective bargaining agreements with the employees of Ringer.com LLC and Gimlet LLC, respectively. As of June 30, 2021, we are in the process of negotiating a collective bargaining agreement with the employees of Parcast LLC.

During 2021, we adopted a Work From Anywhere program which allows most employees to elect their work location from physical office space and home mix options.

Key Performance Indicators

We use certain key performance indicators to monitor and manage our business. We use these indicators to evaluate our business, measure our performance, identify trends affecting our business, formulate business plans, and make strategic decisions. We believe these indicators provide useful information to investors in understanding and evaluating our operating results in the same manner we do.

MAUs

We track MAUs as an indicator of the size of the audience engaged with our Service. We define MAUs as the total count of users of our Ad-Supported Service ("Ad-Supported Users") and Premium Subscribers that have consumed content for greater than zero milliseconds in the last thirty days from the period-end indicated. Reported MAUs may overstate the number of unique individuals who actively use our Service within a thirty-day period as one individual may register for, and use, multiple accounts. Additionally, fraud and unauthorized access to our Service may contribute, from time to time, to an overstatement of MAUs, if undetected. Fraudulent accounts typically are created by bots to inflate content licensing payments to individual rights holders. We strive to detect and minimize these fraudulent accounts. Our MAUs in the tables below are inclusive of users that may have employed methods to limit or otherwise avoid being served advertisements. For additional information, refer to the risk factors discussed under Part I, Item 3.D. "Risk Factors" in our Annual Report on Form 20-F, and in our other filings with the SEC.

The table below sets forth our monthly active users as of June 30, 2021 and 2020.

	As of June 30			
	2021	2020	Change	
	(in millions, except percentages)			
MAUs	365	299	66	22 %

MAUs were 365 million as of June 30, 2021 and 299 million as of June 30, 2020, which represented an increase of 22%. MAUs benefited from our continued investment in driving the growth of our Service, both through geographic expansion and consumer marketing. MAUs also benefited from continued investment in content and features on our platform, including featured playlists, artist marketing campaigns, podcasts, and original content, to drive increased user engagement and customer satisfaction.

Premium Subscribers

We define Premium Subscribers as users that have completed registration with Spotify and have activated a payment method for Premium Service. Our Premium Subscribers include all registered accounts in our Family Plan and Duo Plan. Our Family Plan consists of one primary subscriber and up to five additional sub-accounts, allowing up to six Premium Subscribers per Family Plan Subscription. Our Duo Plan consists of one primary subscriber and up to one additional sub-account, allowing up to two Premium Subscribers per Duo Plan Subscription. Premium Subscribers includes subscribers in a grace period of up to 30 days after failing to pay their subscription fee.

The table below sets forth our Premium Subscribers as of June 30, 2021 and 2020.

	As of June 30		Change	
	2021	2020		
	(in millions, except percentages)			
Premium Subscribers	165	138	27	20 %

Premium Subscribers were 165 million as of June 30, 2021 and 138 million as of June 30, 2020, which represented an increase of 20%. The increase was due primarily to our free trial offers and global campaigns related to our standard plan, while the Family Plan also accounted for a significant portion of gross added Premium Subscribers. In addition, there was an increase in the number of Premium Subscribers on our Duo Plan.

Ad-Supported MAUs

We define Ad-Supported MAUs as the total count of Ad-Supported Users that have consumed content for greater than zero milliseconds in the last thirty days from the period-end indicated.

The table below sets forth our Ad-Supported MAUs as of June 30, 2021 and 2020.

	As of June 30		Change	
	2021	2020		
	(in millions, except percentages)			
Ad-Supported MAUs	210	170	40	24 %

Ad-Supported MAUs were 210 million as of June 30, 2021 and 170 million as of June 30, 2020, which represented an increase of 24%. Ad-Supported MAUs benefited from our continued investment in driving the growth of our Ad-Supported Service, both through geographic expansion and consumer marketing. Ad-Supported MAUs also benefited from continued investment in content and features on our platform, including featured playlists, artist marketing campaigns, podcasts, and original content, to drive increased Ad-Supported User engagement and customer satisfaction.

Premium ARPU

Premium average revenue per user ("ARPU") is a monthly measure defined as Premium revenue recognized in the quarter indicated divided by the average daily Premium Subscribers in such quarter, which is then divided by three months. Fiscal year-to-date figures are calculated by averaging Premium ARPU for the quarters in such period.

The table below sets forth our average Premium ARPU for the three and six months ended June 30, 2021 and 2020.

	Three months ended June 30,				Six months ended June 30,			
	2021	2020	Change		2021	2020	Change	
Premium ARPU	€ 4.29	€ 4.41	€ (0.12)	(3)%	€ 4.21	€ 4.41	€ (0.20)	(5)%

For the three months ended June 30, 2021 and 2020, Premium ARPU was €4.29 and €4.41, respectively, which represented a decrease of 3%. The decrease was due principally to movements in foreign exchange rates, reducing Premium ARPU by €0.13.

For the six months ended June 30, 2021 and 2020, Premium ARPU was €4.21 and €4.41, respectively, which represented a decrease of 5%. The decrease was due principally to movements in foreign exchange rates, reducing Premium ARPU by €0.18.

How We Generate Revenue

We operate and manage our business in two reportable segments - Premium and Ad-Supported. We identify our reportable segments based on the organizational units used by the chief operating decision maker to monitor performance and make operating decisions. See Note 5 to our interim condensed consolidated financial statements for additional information regarding our reportable segments.

Premium

We generate revenue for our Premium segment through the sale of the Premium Service. The Premium Service is sold directly to end users and through partners who are generally telecommunications companies that bundle the subscription with their own services or collect payment for the stand-alone subscriptions from the end user. We also bundle the Premium Service with third-party services and products.

Ad-Supported

We generate revenue for our Ad-Supported segment from the sale of display, audio, and video advertising delivered through advertising impressions and podcast downloads. We generally enter into arrangements with advertising agencies that purchase advertising on our platform on behalf of the agencies' clients and directly with some large advertisers. Additionally, we generate Ad-Supported revenue through arrangements with certain advertising automated exchanges, internal self-serve, and advertising marketplace platforms to distribute advertising inventory for purchase on a cost-per-thousand basis.

Components of our Operating Results

Cost of Revenue. Cost of revenue consists predominantly of royalty and distribution costs related to content streaming. We incur royalty costs, which we pay to certain record labels, music publishers, and other rights holders, for the right to stream music to our users. Royalties are typically calculated monthly based on the combination of a number of different elements. Generally, Premium Service royalties are based on the greater of a percentage of revenue and a per user amount. Royalties for the Ad-Supported Service are typically a percentage of relevant revenue, although certain agreements are based on the greater of a percentage of relevant revenue and an amount for each time a sound recording and musical composition are streamed. We have negotiated lower per user amounts for our lower priced subscription plans such as Family Plan, Duo Plan, and Student Plan users. In our agreements with certain record labels, the percentage of revenue used in the calculation of royalties is generally dependent upon certain targets being met. The targets can include such measures as the number of Premium Subscribers, the ratio of Ad-Supported Users to Premium Subscribers, and/or the rates of Premium Subscriber churn. In addition, royalty rates vary by country. Some of our royalty agreements require that royalty costs be paid in advance or are subject to minimum guaranteed amounts. For the majority of royalty agreements, incremental costs incurred due to un-recouped advances and minimum guarantees have not been significant to date. We also have certain so-called most favored nation royalty agreements, which require us to record additional costs if certain material contract terms are not as favorable as the terms we have agreed to with similar licensors.

Cost of revenue also includes credit card and payment processing fees for subscription revenue, customer service, certain employee compensation and benefits, cloud computing, streaming, facility, and equipment costs, as well as the amortization of podcast content assets (both produced and licensed). Amortization of podcast content assets is recorded over the shorter of the estimated useful economic life or the license period (if relevant) and begins at the release of each episode. Cost of revenue also includes discounted trial costs.

Research and Development. We invest heavily in research and development in order to drive user engagement and customer satisfaction on our platform, which we believe helps drive organic growth in MAUs, which, in turn, drives additional growth in, and better retention of, Premium Subscribers, as well as increased advertising opportunities to Ad-Supported Users. We aim to design products and features that create and enhance user experiences, and new technologies are at the core of many of these opportunities. Expenses primarily comprise costs incurred for development of products related to our platform and Service, as well as new advertising products and improvements to our mobile application and desktop application and streaming services. The costs incurred include related facility costs, consulting costs, and employee compensation and benefits costs. We expect engineers to represent a significant portion of our employees over the foreseeable future.

Many of our new products and improvements to our platform require large investments and involve substantial time and risks to develop and launch. Some of these products may not be well received or may take a long time for users to adopt. As a result, the benefits of our research and development investments are difficult to forecast.

Sales and Marketing. Sales and marketing expenses primarily comprise employee compensation and benefits, public relations, branding, consulting expenses, customer acquisition costs, advertising, marketing events and trade shows, amortization of trade name intangible assets, the cost of working with music record labels, publishers, songwriters, and artists to promote the availability of new releases on our platform, and the costs of providing free trials of our Premium Service. Expenses included in the cost of providing free trials are derived primarily from per user royalty fees determined in accordance with the rights holder agreements.

General and Administrative. General and administrative expenses primarily comprise employee compensation and benefits for functions such as finance, accounting, analytics, legal, human resources, consulting fees, and other costs including facility and equipment costs, officers' liability insurance, director fees, and fair value adjustments on contingent consideration.

Results of Operations

Impact of COVID-19 pandemic

The COVID-19 pandemic has created significant volatility, uncertainty, and economic disruption. In response to the COVID-19 pandemic, we have taken a number of actions focused on protecting the health and safety of our employees, maintaining business continuity, supporting the global music community, and providing the ability to work-from-home for our employees.

The full impact of the COVID-19 pandemic on our business, financial condition, and results of operations will depend on numerous evolving factors that we may not be able to accurately predict and that will vary by market, including the duration and scope of the pandemic, including any resurgences, the impact of the pandemic on economic activity, and actions taken by governments, businesses, and individuals in response. We will continue to actively monitor and respond accordingly to the changing conditions created by the pandemic. Refer to Part I, Item 3.D. "Risk Factors" in our Annual Report on Form 20-F for further discussion of the impact of the COVID-19 pandemic on our business, operating results, and financial condition.

Revenue

	Three months ended June 30,				Six months ended June 30,			
	2021	2020	Change		2021	2020	Change	
	(in € millions, except percentages)							
Premium	2,056	1,758	298	17 %	3,987	3,458	529	15 %
Ad-Supported	275	131	144	110 %	491	279	212	76 %
Total	**2,331**	**1,889**	**442**	**23 %**	**4,478**	**3,737**	**741**	**20 %**

Premium revenue

For the three months ended June 30, 2021 and 2020, Premium revenue comprised 88% and 93% of our total revenue, respectively. For the three months ended June 30, 2021 as compared to the three months ended June 30, 2020, Premium revenue increased €298 million, or 17%. The increase was attributable primarily to a 20% growth in the number of Premium Subscribers, partially offset by a decrease in Premium ARPU of 3%, due principally to movements in foreign exchange rates, as noted above.

For the six months ended June 30, 2021 and 2020, Premium revenue comprised 89% and 93% of our total revenue, respectively. For the six months ended June 30, 2021 as compared to the six months ended June 30, 2020, Premium revenue increased €529 million, or 15%. The increase was attributable primarily to a 20% increase in the number of Premium Subscribers, partially offset by a decrease in Premium ARPU of 5%, due principally to movements in foreign exchange rates, as noted above.

Ad-Supported revenue

For the three months ended June 30, 2021 and 2020, Ad-Supported revenue comprised 12% and 7% of our total revenue, respectively. For the three months ended June 30, 2021 as compared to the three months ended June 30, 2020, Ad-Supported revenue increased €144 million, or 110%. The majority of this increase was due to an increase in music impressions sold, which increased revenue in our direct and programmatic channels by €99 million. Ad sales from the Megaphone acquisition, and exclusive licensing of the Joe Rogan Experience along with other growth in podcast ad sales also contributed to the increase in revenue during the three months ended June 30, 2021. Ad-Supported revenue during the three months ended June 30, 2020 was impacted by COVID-19.

For the six months ended June 30, 2021 and 2020, Ad-Supported revenue comprised 11% and 7% of our total revenue, respectively. For the six months ended June 30, 2021 as compared to the six months ended June 30, 2020, Ad-Supported revenue increased €212 million, or 76%. This majority of this increase was due to an increase in music impressions sold, which increased revenue in our direct and programmatic channels by €135 million. Ad sales from the Megaphone acquisition, and exclusive licensing of the Joe Rogan Experience along with other growth in podcast ad sales also contributed to the increase in revenue during the six months ended June 30, 2021. Ad-Supported revenue during the six months ended June 30, 2020 was impacted by COVID-19.

Foreign exchange impact on total revenue

The general strengthening of the Euro relative to certain foreign currencies, primarily the U.S. Dollar, for the three and six months ended June 30, 2021, as compared to the same period in 2020, had an unfavorable net impact on our revenue. We estimate that total revenue for the three and six months ended June 30, 2021 would have been approximately €81 million and €195 million higher, respectively, if foreign exchange rates had remained consistent with foreign exchange rates for the comparable period in 2020.

Cost of revenue

	Three months ended June 30,				Six months ended June 30,			
	2021	2020	Change		2021	2020	Change	
	(in € millions, except percentages)							
Premium	1,423	1,263	160	13 %	2,816	2,482	334	13 %
Ad-Supported	245	147	98	67 %	451	304	147	48 %
Total	**1,668**	**1,410**	**258**	**18 %**	**3,267**	**2,786**	**481**	**17 %**

Premium cost of revenue

For the three months ended June 30, 2021 as compared to the three months ended June 30, 2020, Premium cost of revenue increased €160 million, or 13%, and Premium cost of revenue as a percentage of Premium revenue decreased from 72% to 69%. The increase in Premium cost of revenue was driven primarily by growth in new Premium Subscribers and publishing licensing rate increases, partially offset by benefits from certain marketplace programs, resulting in higher royalty costs of €190 million. The three months ended June 30, 2021 also included a net €42 million benefit related to changes in prior period estimates for rights holder liabilities, while the three months ended June 30, 2020 included a net €17 million benefit relating to changes in prior period estimates for rights holder liabilities.

For the six months ended June 30, 2021 as compared to the six months ended June 30, 2020, Premium cost of revenue increased €334 million, or 13%, and Premium cost of revenue as a percentage of Premium revenue decreased from 72% to 71%. The increase in Premium cost of revenue was driven primarily by the growth in new Premium Subscribers and publishing licensing rate increases, partially offset by benefits from certain marketplace programs, resulting in higher royalty costs of €371 million. The six months ended June 30, 2021 included a net €42 million benefit relating to changes in prior period estimates for rights holder liabilities.

Ad-Supported cost of revenue

For the three months ended June 30, 2021 as compared to the three months ended June 30, 2020, Ad-Supported cost of revenue increased €98 million, or 67%, and Ad-Supported cost of revenue as a percentage of Ad-Supported revenue decreased from 112% to 89%. The increase in Ad-Supported cost of revenue was driven primarily by higher royalty costs of €67 million due to growth in both advertising revenue and streams as well as publishing licensing rate increases, partially offset by benefits from certain marketplace programs. Additionally, there was an increase in podcast costs of €30 million. Ad-Supported cost of revenue as a percentage of Ad-Supported revenue decreased due primarily to an increase in revenue that outpaced cost of revenue growth, with revenue growth reflecting the impact of COVID-19 in the three months ended June 30, 2020 and increased podcast revenues.

For the six months ended June 30, 2021 as compared to the six months ended June 30, 2020, Ad-Supported cost of revenue increased €147 million, or 48%, and Ad-Supported cost of revenue as a percentage of Ad-Supported revenue decreased from 109% to 92%. The increase in Ad-Supported cost of revenue was driven primarily by higher royalty costs of €91 million due to growth in both advertising revenue and streams as well as publishing licensing rate increases, partially offset by benefits

from certain marketplace programs. Additionally, there was an increase in podcast costs of €56 million. Ad-Supported cost of revenue as a percentage of Ad-Supported revenue decreased due primarily to an increase in revenue that outpaced cost of revenue growth, with revenue growth reflecting the impact of COVID-19 in the six months ended June 30, 2020 and increased podcast revenues.

Foreign exchange impact on total cost of revenue

The general strengthening of the Euro relative to certain foreign currencies, primarily the U.S. Dollar, for the three and six months ended June 30, 2021, as compared to the same periods in 2020, had a favorable net impact on our cost of revenue. We estimate that total cost of revenue for the three and six months ended June 30, 2021 would have been approximately €62 million and €148 million higher, respectively, if foreign exchange rates had remained consistent with foreign exchange rates for the comparable periods in 2020.

Gross profit/(loss) and gross margin

	Three months ended June 30,				Six months ended June 30,			
	2021	2020	Change		2021	2020	Change	
	(in € millions, except percentages)							
Gross profit/(loss)								
Premium	633	495	138	28 %	1,171	976	195	20 %
Ad-Supported	30	(16)	46	NM*	40	(25)	65	NM*
Consolidated	**663**	**479**	**184**	**38 %**	**1,211**	**951**	**260**	**27 %**
Gross margin								
Premium	31 %	28 %			29 %	28 %		
Ad-Supported	11 %	(12)%			8 %	(9)%		
Consolidated	**28 %**	**25 %**			**27 %**	**25 %**		

** Percentage change is not meaningful for presentation purpose.*

Premium gross profit and gross margin

For the three months ended June 30, 2021 as compared to the three months ended June 30, 2020, Premium gross profit increased by €138 million, and Premium gross margin increased from 28% to 31%. The increase in Premium gross margin was due primarily to changes in prior period estimates for rights holder liabilities with further benefits from certain marketplace programs. The gross margin benefits for the three months ended June 30, 2021 were partially offset by increases in publishing licensing rates.

For the six months ended June 30, 2021 as compared to the six months ended June 30, 2020, Premium gross profit increased by €195 million, and Premium gross margin increased from 28% to 29%. The increase in Premium gross margin was due primarily to changes in prior period estimates for rights holder liabilities during the six months ended June 30, 2021 with further benefits from certain marketplace programs. The gross margin benefits for the six months ended June 30, 2021 were partially offset by increases in publishing licensing rates.

Ad-Supported gross profit/(loss) and gross margin

For the three months ended June 30, 2021 as compared to the three months ended June 30, 2020, Ad-Supported gross profit increased by €46 million, and gross margin increased from (12)% to 11%. The increase in Ad-Supported gross margin was due primarily to an increase in revenue that outpaced streams growth and a benefit from certain marketplace programs. Additionally, podcast revenue growth outpaced podcast costs growth during the three months ended June 30, 2021. These benefits were partially offset by increases in publishing licensing rates.

For the six months ended June 30, 2021, as compared to the six months ended June 30, 2020, Ad-Supported gross profit increased by €65 million, and gross margin increased from (9)% to 8%. The increase in Ad-Supported gross margin was due primarily to an increase in revenue that outpaced streams growth and a benefit from certain marketplace programs. Additionally, podcast revenue growth outpaced podcast costs growth during the six months ended June 30, 2021. These benefits were partially offset by increases in publishing licensing rates.

Consolidated Operating expenses

Research and development

	Three months ended June 30,				Six months ended June 30,			
	2021	2020	Change		2021	2020	Change	
	(in € millions, except percentages)							
Research and development	255	267	(12)	(4)%	451	429	22	5 %
As a percentage of revenue	**11 %**	**14 %**			**10 %**	**11 %**		

For the three months ended June 30, 2021 as compared to the three months ended June 30, 2020, research and development costs decreased €12 million, or 4%. The decrease was due primarily to a decrease in personnel-related costs in relation to social costs of €70 million, driven mainly by share price movement. This decrease was partially offset by increases in personnel-related costs of salaries, share-based compensation, and other employee benefits of €50 million as a result of increased headcount to support our growth. Included in personnel-related costs for the three months ended June 30, 2021 are costs of €21 million in relation to acceleration of certain employee benefits.

For the six months ended June 30, 2021 as compared to the six months ended June 30, 2020, research and development costs increased €22 million, or 5%, as we continually enhance our platform to retain and grow our user base. The increase was due primarily to an increase in personnel-related costs of salaries, share-based compensation, and other employee benefits of €77 million as a result of increased headcount to support our growth. This increase was partially offset by decreased social costs of €68 million, driven by share price movements. Included in personnel-related costs for six months ended June 30, 2021 are costs of €21 million in relation to acceleration of certain employee benefits.

Sales and marketing

	Three months ended June 30,				Six months ended June 30,			
	2021	2020	Change		2021	2020	Change	
	(in € millions, except percentages)							
Sales and marketing	279	248	31	13 %	515	479	36	8 %
As a percentage of revenue	**12 %**	**13 %**			**12 %**	**13 %**		

For the three months ended June 30, 2021 as compared to the three months ended June 30, 2020, sales and marketing expense increased by €31 million, or 13%. The increase was due primarily to an increase in advertising costs of €47 million for marketing campaigns. There was also an increase in salaries of €12 million, as a result of increased headcount to support our growth, which was offset by a decrease in social costs of €26 million, driven by share price movements.

For the six months ended June 30, 2021 as compared to the six months ended June 30, 2020, sales and marketing expense increased by €36 million, or 8%. The increase was due primarily to an increase in advertising costs of €70 million for marketing campaigns. There was also an increase in personnel-related costs for salaries, share-based compensation, and other employee benefits of €39 million as a result of increased headcount to support our growth. These increases were partially offset by a decrease in social costs of €26 million, driven by share price movements. In addition, there was a decrease in cost of providing free trials of €33 million as a result of changes in our free trial campaigns.

General and administrative

	Three months ended June 30,				Six months ended June 30,			
	2021	2020	Change		2021	2020	Change	
	(in € millions, except percentages)							
General and administrative	117	131	(14)	(11)%	219	227	(8)	(4)%
As a percentage of revenue	**5 %**	**7 %**			**5 %**	**6 %**		

For the three months ended June 30, 2021 as compared to the three months ended June 30, 2020, general and administrative expense decreased by €14 million, or 11%. The decrease was due primarily to a decrease in personnel-related costs in relation to social costs of €17 million, driven by share price movements. This decrease was partially offset by increases in salaries and share-based compensation as a result of increased headcount to support our growth.

For the six months ended June 30, 2021 as compared to the six months ended June 30, 2020, general and administrative expense decreased €8 million, or 4%. The decrease was due primarily to a decrease in personnel-related costs in relation to social costs of €15 million, driven by share price movements. This decrease was partially offset by an increase in salaries as a result of increased headcount to support our growth.

Finance income

Finance income consists of fair value adjustment gains on certain financial instruments, interest income earned on our cash and cash equivalents and short-term investments, and foreign currency gains.

	Three months ended June 30,				Six months ended June 30,			
	2021	2020	Change		2021	2020	Change	
	(in € millions, except percentages)							
Finance income	21	6	15	250 %	125	76	49	64 %
As a percentage of revenue	**1 %**	**— %**			**3 %**	**2 %**		

For the three months ended June 30, 2021 as compared to the three months ended June 30, 2020, finance income increased €15 million due primarily to a fair value gain recorded for the Exchangeable Notes of €16 million.

For the six months ended June 30, 2021 as compared to the six months ended June 30, 2020, finance income increased €49 million. The increase was due primarily to fair value gains recorded for the Exchangeable Notes of €66 million. This increase was partially offset by a decrease in fair value gains recorded for warrants of €18 million.

Finance costs

Finance costs consist of fair value adjustment losses on certain financial instruments, interest expense, transaction costs of the issuance of Exchangeable Notes, and foreign currency losses.

	Three months ended June 30,				Six months ended June 30,			
	2021	2020	Change		2021	2020	Change	
	(in € millions, except percentages)							
Finance costs	(25)	(294)	269	(91)%	(56)	(306)	250	(82)%
As a percentage of revenue	**(1)%**	**(16)%**			**(1)%**	**(8)%**		

For the three months ended June 30, 2021 as compared to the three months ended June 30, 2020, finance costs decreased €269 million. The decrease was due primarily to a decrease in fair value losses recorded for warrants of €244 million. There was also a decrease of €26 million in foreign exchange losses on the remeasurement of monetary assets and liabilities in a transaction currency other than the functional currency.

For the six months ended June 30, 2021 as compared to the six months ended June 30, 2020, finance costs decreased €250 million. The decrease was due primarily to a decrease in fair value losses recorded for warrants of €244 million. There was also a decrease of €26 million in foreign exchange losses on the remeasurement of monetary assets and liabilities in a transaction currency other than the functional currency. These increases were partially offset by €18 million of transaction costs recorded in connection with the issuance of the Exchangeable Notes.

Income tax expense/(benefit)

	Three months ended June 30,				Six months ended June 30,			
	2021	2020	Change		2021	2020	Change	
	(in € millions, except percentages)							
Income tax expense/(benefit)	28	(99)	127	NM*	92	(59)	151	NM*
As a percentage of revenue	**1 %**	**(5)%**			**2 %**	**(2)%**		

** Percentage change is not meaningful for presentation purpose.*

For the three months ended June 30, 2021, income tax expense was €28 million, compared to an income tax benefit of €99 million for the three months ended June 30, 2020. The expense for the three months ended June 30, 2021 is due primarily to current period share-based compensation deductions recognized in equity resulting in additional tax expense as well as derecognition of deferred taxes as a result of the unrealized decrease in the fair value of the Group's long term investment in TME. The benefit for the three months ended June 30, 2020 was due primarily to additional recognition of deferred taxes as a result of the unrealized increase in the fair value of the TME investment.

For the six months ended June 30, 2021, income tax expense was €92 million, compared to an income tax benefit of €59 million for the six months ended June 30, 2020. The expense for the six months ended June 30, 2021 is due primarily to a reassessment of uncertain tax positions of €38 million arising from new information in the period. In addition, current period share-based compensation deductions recognized in equity and the unrealized decrease in the fair value of the TME investment resulted in additional tax expense. The benefit for the six months ended June 30, 2020 was due primarily to additional recognition of deferred taxes as a result of the unrealized increase in the fair value of the TME investment.

Non-IFRS Financial Measure

We have reported our financial results in accordance with IFRS as issued by IASB. In addition, we have discussed our results using the non-IFRS measure of Free Cash Flow as discussed below.

We define "Free Cash Flow" as net cash flows from operating activities less capital expenditures and change in restricted cash. We believe Free Cash Flow is a useful supplemental financial measure for us and investors in assessing our ability to pursue business opportunities and investments. Free Cash Flow is not a measure of our liquidity under IFRS and should not be considered as an alternative to net cash flows from operating activities.

Free Cash Flow is a non-IFRS measure and is not a substitute for IFRS measures in assessing our overall financial performance. Because Free Cash Flow is not a measurement determined in accordance with IFRS, and is susceptible to varying calculations, it may not be comparable to other similarly titled measures presented by other companies. You should not consider Free Cash Flow in isolation, or as a substitute for an analysis of our results as reported on our interim condensed consolidated financial statements appearing elsewhere in this document.

Set forth below is a reconciliation of Free Cash Flow to net cash flows from operating activities for the periods presented.

	Six months ended June 30,	
	2021	2020
	(in € millions)	
Net cash flows from operating activities	119	30
Capital expenditures	(44)	(26)
Change in restricted cash	—	2
Free Cash Flow	**75**	**6**

Liquidity and Capital Resources

Our principal sources of liquidity are our cash and cash equivalents, short term investments, and cash generated from operating activities. Cash and cash equivalents and short term investments consist mostly of cash on deposit with banks, investments in money market funds, investments in government securities, corporate debt securities, and collateralized reverse

purchase agreements. Cash and cash equivalents and short-term investments increased by €1,305 million from €1,747 million as of December 31, 2020 to €3,052 million as of June 30, 2021.

We believe our existing cash and cash equivalent balances, and the cash flow we generate from our operations will be sufficient to meet our working capital and capital expenditure needs for at least the next 12 months. However, our future capital requirements may be materially different than those currently planned in our budgeting and forecasting activities and depend on many factors, including our rate of revenue growth, the timing and extent of spending on content and research and development, the expansion of our sales and marketing activities, the timing of new product introductions, market acceptance of our products, our continued international expansion, competitive factors, the COVID-19 pandemic, and global economic conditions. To the extent that current and anticipated future sources of liquidity are insufficient to fund our future business activities and requirements, we may be required to seek additional equity or debt financing. The sale of additional equity would result in additional dilution to our shareholders, while the incurrence of debt financing would result in debt service obligations. Such debt instruments also could introduce covenants that might restrict our operations. We cannot assure you that we could obtain additional financing on favorable terms, or at all. While the COVID-19 pandemic has not materially impacted our liquidity and capital resources to date, it has led to increased disruption and volatility in capital markets and credit markets. The pandemic and resulting economic uncertainty could adversely affect our liquidity and capital resources in the future. Based on past performance and current expectations, we believe our strong cash and cash equivalents and investments position are critical at this time of uncertainty due to the COVID-19 pandemic, and allow us to use our cash resources for working capital needs, capital expenditures, investment requirements, contractual obligations, commitments, and other liquidity requirements associated with our operations. For additional information, refer to Part I, Item 3.D. "Risk Factors" in our Annual Report on Form 20-F.

We have planned capital expenditures of approximately €52 million in the next 12 months associated with the build-out of office space in Los Angeles, Miami, Milan, and Stockholm, among others.

While we continue to make investments in offices and information technology infrastructure through purchases of property and equipment and lease arrangements to provide capacity for the growth of our business, we may slow the pace of our investments due to COVID-19. We may also see a shift in investments due to our newly implemented Work From Anywhere program.

Exchangeable Notes

On March 2, 2021, Spotify USA Inc. issued US$1,500 million in aggregate principal amount of 0% Exchangeable Notes due 2026. Net proceeds from the issuance of the Exchangeable Notes were €1,223 million after deducting the transaction costs. We intend to use the net proceeds for general corporate purposes. See Note 17 to our interim condensed consolidated financial statements for further information regarding our Exchangeable Notes.

Cash Flow

	Six months ended June 30,	
	2021	2020
	(in € millions)	
Net cash flows from operating activities	119	30
Net cash flows used in investing activities	(153)	(106)
Net cash flows from financing activities	1,256	167
Free Cash Flow[(1)]	75	6

(1) For a discussion of the limitations associated with using Free Cash Flow rather than IFRS measures, and a reconciliation of Free Cash Flow to net cash flows from operating activities, see "Non-IFRS Financial Measure" above.

Operating activities

Net cash flows from operating activities increased by €89 million to €119 million for the six months ended June 30, 2021 as compared to the six months ended June 30, 2020. The increase was due primarily to an increase in operating income of €210 million, partially offset by non-cash items including depreciation, amortization, and share-based compensation expense. This increase was partially offset by unfavorable changes in working capital of €164 million, principally trade and other liabilities and trade receivables and other assets, as compared to the six months ended June 30, 2020.

Investing activities

Net cash flows used in investing activities increased by €47 million for the six months ended June 30, 2021 as compared to the six months ended June 30, 2020. The increase was due primarily to a decrease in net cash inflows from sales and maturities of short term investments of €76 million, partially offset by a decrease in cash consideration used in business combinations, net of cash acquired, of €36 million.

Financing activities

Net cash flows from financing activities increased by €1,089 million for the six months ended June 30, 2021 as compared to the six months ended June 30, 2020. The increase was due primarily to net proceeds of €1,233 million from the issuance of Exchangeable Notes, partially offset by a decrease in proceeds from the exercise of stock options of €101 million.

Free Cash Flow

Free Cash Flow increased by €69 million to €75 million for the six months ended June 30, 2021 as compared to the six months ended June 30, 2020, due primarily to an increase in net cash flows from operating activities of €89 million, as described above, partially offset by an increase in capital expenditures of €18 million.

Restrictions on Subsidiaries to Transfer Funds

The payment of dividends and the making, or repayment, of loans and advances to the Company by the Company's direct subsidiaries and such payments by its indirect subsidiaries to their respective parent entities are subject to various restrictions. Future indebtedness of these subsidiaries may prohibit the payment of dividends or the making, or repayment, of loans or advances to the Company. In addition, the ability of any of the Company's direct or indirect subsidiaries to make certain distributions may be limited by the laws of the relevant jurisdiction in which the subsidiaries are organized or located, including financial assistance rules, corporate benefit laws, liquidity requirements, requirements that dividends must be paid out of reserves available for distribution, and other legal restrictions which, if violated, might require the recipient to refund unlawful payments. Spotify AB, which, directly or indirectly through its subsidiaries, conducts much of the Group's business, may only make dividends to the Company if there would continue to be full coverage of its restricted equity following such dividend, and only if doing so would be considered prudent under Swedish law given the needs of Spotify AB and its subsidiaries. Loans and other advances from Spotify AB to the Company may be subject to essentially the same restrictions as dividends. Since the Company is expected to rely primarily on dividends from its direct and indirect subsidiaries to fund its financial and other obligations, restrictions on its ability to receive such funds may adversely impact the Company's ability to fund its financial and other obligations.

Indebtedness

As of June 30, 2021, our outstanding indebtedness, other than lease liabilities, consisted primarily of the Exchangeable Notes that mature on March 15, 2026 and bear no interest. See Note 17 to our interim condensed consolidated financial statements for further information regarding our Exchangeable Notes. We may from time to time seek to incur additional indebtedness. Such indebtedness, if any, will depend on prevailing market conditions, our liquidity requirements, contractual restrictions, and other factors.

Off-Balance Sheet Arrangements

As of June 30, 2021, we do not have transactions with unconsolidated entities, such as entities often referred to as structured finance or special purpose entities, whereby we have financial guarantees, subordinated retained interests, derivative instruments, or other contingent arrangements that expose us to material continuing risks, contingent liabilities, or any other obligation under a variable interest in an unconsolidated entity that provides financing, liquidity, market risk, or credit risk support to us.

Tabular Disclosure of Contractual Obligations

The following table sets forth our contractual obligations and commercial commitments as of June 30, 2021:

	Payments due by period				
Contractual obligations:	**Total**	**Less than 1 year**	**1-3 years**	**3-5 years**	**More than 5 years**
			(in € millions)		
Minimum guarantees [1]	3,273	508	2,706	59	—
Exchangeable Notes [2]	1,265	—	—	1,265	—
Lease obligations [3]	904	89	180	175	460
Purchase obligations [4]	929	205	724	—	—
Deferred and contingent consideration [5]	62	26	23	13	—
Total	**6,433**	**828**	**3,633**	**1,512**	**460**

(1) We are subject to minimum royalty payments associated with our license agreements for the use of licensed content. See Part I, Item 3.D. "Risk Factors" in our Annual Report on Form 20-F.
(2) Consists of principal on our 0.00% Exchangeable Notes due March 15, 2026
(3) Included in the lease obligations are short term leases and certain lease agreements that the Group has entered into, but have not yet commenced as of June 30, 2021. Lease obligations relate to our office space. The lease terms are up to thirteen years. See Note 9 to the interim condensed consolidated financial statements for further details regarding leases.
(4) We are subject to various non-cancelable purchase obligations and service agreements with minimum spend commitments, including a service agreement with Google for the use of Google Cloud Platform and certain podcast commitments.
(5) Included in deferred consideration are obligations to transfer €45 million of cash consideration over the next four years to former owners of certain entities we have acquired. Included in contingent consideration is the obligation to transfer a maximum of €17 million of contingent cash payment consideration over the next year to former owners of an entity we acquired if specified user engagement targets are achieved.

Item 3. Quantitative and Qualitative Disclosures About Market Risk

Our activities expose us to a variety of market risks. Our primary market risk exposures relate to currency, interest rate, share price, and investment risks. To manage these risks and our exposure to the unpredictability of financial markets, we seek to minimize potential adverse effects on our financial performance and capital.

Volatile market conditions arising from the COVID-19 pandemic may result in significant changes in foreign exchange rates, interest rates, and share prices, both our own and those used to value certain of our long-term investments. Refer to Part I, Item 3.D. "Risk Factors" in our Annual Report on Form 20-F for further discussion on the impact of the COVID-19 pandemic on our business, operating results, and financial condition.

Currency Risk

Currency risk manifests itself in transaction exposure, which relates to business transactions denominated in foreign currency required by operations (purchasing and selling) and/or financing (interest and amortization). The volatility in foreign exchange rates due to the COVID-19 pandemic, in particular a weakening of foreign currencies relative to the Euro may negatively affect our revenue. Our general policy is to hedge transaction exposure on a case-by-case basis. Translation exposure relates to net investments in foreign operations. We do not conduct translation risk hedging.

We are subject to deferred tax as a result of foreign exchange movements between USD, EUR, and SEK, primarily related to our investment in TME.

Transaction Exposure Sensitivity

In most cases, our customers are billed in their respective local currency. Major payments, such as salaries, consultancy fees, and rental fees are settled in local currencies. Royalty payments are primarily settled in Euros and U.S. dollars. Hence, the operational need to net purchase foreign currency is due primarily to a deficit from such settlements.

The table below shows the immediate impact on income before tax of a 10% strengthening of foreign currencies relative to the Euro in the closing exchange rate of significant currencies to which we have transaction exposure, at June 30, 2021. The sensitivity associated with a 10% weakening of a particular currency would be equal and opposite. This assumes that each currency moves in isolation.

	USD	SEK
	(in € millions)	
Increase/(decrease) in income before tax	116	(13)

Translation Exposure Sensitivity

The impact on our equity would be approximately €97 million if the Euro weakened by 10% against all translation exposure currencies, based on the exposure at June 30, 2021.

Interest Rate Risk

Interest rate risk is the risk that changes in interest rates will have a negative impact on earnings and cash flow. Our exposure to interest rate risk is related to our interest-bearing assets, primarily our short term debt securities. Fluctuations in interest rates impact the yield of the investment. The sensitivity analysis considered the historical volatility of short term interest rates and determined that it was reasonably possible that a change of 100 basis points could be experienced in the near term. A hypothetical 100 basis point increase in interest rates would have impacted interest income by €1 million and €3 million for the three and six months ended June 30, 2021, respectively.

Share Price Risk

Share price risk is the risk that the fair value or future cash flows of a financial instrument will fluctuate due to changes in the fair value of the Company's ordinary share price. Our exposure to this risk relates primarily to the Exchangeable Notes and outstanding warrants.

The impact on the fair value of the Exchangeable Notes of using reasonably possible alternative assumptions with a decrease or increase in share price of 10% results in a range of €1,177 million to €1,223 million at June 30, 2021.

The impact on the fair value of the outstanding warrants with a decrease or increase in the Company's ordinary share price of 10% results in a range of €53 million to €82 million at June 30, 2021.

The impact on the accrual for social costs on outstanding share-based compensation awards of a decrease or increase in the Company's ordinary share price of 10% would result in a change of €23 million and €24 million at June 30, 2021.

Investment Risk

We are exposed to investment risk as it relates to changes in the market value of our long term investments, due primarily to volatility in the share price used to measure the investment and exchange rates. The majority of our long term investments relate to TME. The impact on the fair value of the Group's long term investment in TME with a decrease or increase of TME's share price used to value the Group's equity interest of 10% results in a range of €1,662 million to €2,031 million at June 30, 2021.

Critical Accounting Policies and Estimates

We prepare our interim condensed consolidated financial statements in accordance with IFRS as issued by the IASB. Preparing these financial statements requires us to make estimates and assumptions that affect the reported amounts of assets, liabilities, equity, revenue, expenses, and related disclosures. We evaluate our estimates and assumptions on an ongoing basis. Our estimates are based on historical experience and various other assumptions that we believe to be reasonable under the circumstances. Our actual results may differ from these estimates.

We believe that the assumptions and estimates associated with revenue, share-based compensation, content, warrants, Exchangeable Notes, business combinations, determining the incremental borrowing rate, and income taxes have the greatest potential impact on our interim condensed consolidated financial statements. Therefore, we consider these to be our critical accounting policies and estimates.

Except for the Exchangeable Notes presented below, there have been no material changes or additions to our critical accounting policies and estimates as compared to the critical accounting policies and estimates described in our Annual Report on Form 20-F.

Exchangeable Notes

We accounted for the Exchangeable Notes at fair value through profit and loss using the fair value option in accordance with IFRS 9 Financial Instruments. Under this approach, the Exchangeable Notes are accounted for in their entirety at fair value, with any change in fair value after initial measurement being recorded in finance income or cost in the condensed consolidated statement of operations, except that changes in fair value that are due to changes in own credit risk will be presented separately in other comprehensive (loss)/income and will not be reclassified to the condensed consolidated statement of operations.

The fair value of the Exchangeable Notes is estimated using a combination of binomial option pricing model and prices observed for the Exchangeable Notes in an over-the-counter market on the last trading day of the reporting period. The key inputs and assumptions, which involve inherent uncertainties and management judgement, to the fair value of the Exchangeable Notes have been discussed in Note 21 to our interim condensed consolidated financial statements included in this document.

Recent Accounting Pronouncements

There are no new IFRS or IFRS Interpretation Committee ("IFRIC") interpretations effective for the six months ended June 30, 2021 that have a material impact to the interim condensed consolidated financial statements. See Note 2 to our interim condensed consolidated financial statements included in this document.

PART II - OTHER INFORMATION

Item 1. Legal Proceedings

We are from time to time subject to various claims, lawsuits and other legal proceedings. Some of these claims, lawsuits and other legal proceedings involve highly complex issues, and often these issues are subject to substantial uncertainties. Accordingly, our potential liability with respect to a large portion of such claims, lawsuits and other legal proceedings cannot be estimated with certainty. Management, with the assistance of legal counsel, periodically reviews the status of each significant matter and assesses potential financial exposure. We recognize provisions for claims or pending litigation when it determines that an unfavorable outcome is probable and the amount of loss can be reasonably estimated. Due to the inherent uncertain nature of litigation, the ultimate outcome or actual cost of settlement may materially vary from estimates. If management's estimates prove incorrect, current reserves could be inadequate and we could incur a charge to earnings which could have a material adverse effect on our results of operations, financial condition, and cash flows.

For a discussion of legal proceedings in which we are involved, see Note 22 to our interim condensed consolidated financial statements included in this report.

Item 1A. Risk Factors

The information presented below updates, and should be read in conjunction with, the risk factors and information disclosed in Part I, Item 3.D. "Risk Factors" in our Annual Report on Form 20-F and Part II, Item I.A. "Risk Factors" in our quarterly report for the three months ended March 31, 2021(the “Q1 Report”). Except as presented below, there have been no material changes to our risk factors since those reported in Annual Report on Form 20-F and our Q1 Report.

The COVID-19 pandemic has had, and could continue to have, an adverse impact on our business, operating results, and financial condition.

The COVID-19 pandemic has created significant volatility, uncertainty, and economic disruption. The full extent to which the COVID-19 pandemic will continue to impact our business, financial condition, and results of operations will depend on numerous evolving factors that we may not be able to accurately predict and that will vary by market, including the duration and scope of the pandemic, the impact of the pandemic on economic activity, and actions taken by governments, businesses, and individuals in response. The economic disruption caused by the COVID-19 pandemic has adversely affected, and could continue to adversely affect, the levels of advertising spending and consumer spending on discretionary items, which in turn adversely affect our ad sales and Subscriber revenue. Limitations on travel, “stay at home” orders, social distancing requirements, and other governmental actions implemented in response to COVID-19 led to changes as to how our users consume music and podcasts, and, although we have seen some return to pre-COVID-19 levels in our users’ engagement with our Service, any failure to predict or address changes in our users’ engagement with our Service arising from the COVID-19 pandemic could adversely affect our business. As a result of the COVID-19 pandemic, podcasters and other creators or users may experience delays or interruptions in their ability to create and provide content on our platform, and a decrease in the amount or quality of content available on our Service could adversely affect user engagement and harm our business. An extended period of remote working by our employees could introduce or heighten operational challenges, including our ability to launch new products and services or expand our Service to additional geographic markets. Any such effect could cause or contribute to the risks and uncertainties enumerated in this report and could materially adversely affect our business, operating results, and financial condition.

Additionally, the majority of our employees are currently working remotely as a result of the COVID-19 pandemic, and we recently adopted the Work from Anywhere program, which allows most employees to elect their work location from physical office space and home mix options. Both policies could challenge our ability to manage employees and maintain productivity, impact our financial reporting systems and internal controls, heighten the risk of cyber incidents, and increase our compliance costs as our dispersed workforce will be subject to many different local laws and regulations. In addition, any rapid adoption by us of third-party services designed to enable the transition to a remote workforce also may introduce security risk that is not fully mitigated prior to the use of the services. Recently, organizations worldwide, including governments and commercial enterprises, have seen an increase in cyber-attacks, such as phishing and ransomware attacks, by actors using the attention placed on the pandemic and remote workforces as opportunities for targeting systems and personnel. Our own systems and the systems of third parties that we work with are subject to such increased threats.

Failure to maintain the security of data relating to our users could result in civil liability, statutory fines, regulatory enforcement, and the loss of confidence in us by our users, advertisers, content providers, and other business partners, all of which could harm our business.

Techniques used to gain unauthorized access to data and software are constantly evolving, and we may be unable to anticipate or prevent unauthorized access to data pertaining to our users, including credit card and debit card information and other personal data about our users, business partners, and employees. Our Service, which is supported by our own systems and those of third parties that we work with, is vulnerable to software bugs, traditional computer "hackers," malicious code (such as malware, viruses, internet worms, and ransomware), employee theft, malfeasance, break-ins, misuse or error, phishing, password spraying, and credential stuff attacks, attempts to overload servers with denial-of-service or other attacks, and similar disruptions from unauthorized use of our and third-party computer systems, any of which could cause loss of critical data or unauthorized access to personal data. In addition to these "traditional" threats, we also face threats from sophisticated organized crime, nation-state, and nation-state supported actors who engage in attacks (including advanced persistent threat intrusions) that add to the risks to Spotify, our internal systems and the systems of the third parties we work with. Third parties may attempt to fraudulently induce employees, users, or organizations into disclosing sensitive information such as user names, passwords, or other information or otherwise compromise the security of our internal electronic systems, networks, and/or physical facilities in order to gain access to our data, which could result in significant legal and financial exposure, a loss of confidence in the security of Spotify, interruptions or malfunctions in our operations, and, ultimately, harm to our future business prospects and revenue. Security issues have in the past, and may in the future, arise in cases where Spotify personnel, agents or processors fail to follow our policies or otherwise act inappropriately.

Computer malware, viruses, and computer hacking and phishing attacks have occurred on our systems in the past and may occur on our systems in the future. Because of our prominence, we believe that we are a particularly attractive target for such attacks. Moreover, our recently adopted Work from Anywhere program may impact our ability to protect against cyber incidents as our workforce will now be connected from a mix of physical office space and home options. We cannot assure you that the systems and processes that we have designed to protect our data and our users' data, to prevent data loss, to disable undesirable accounts and activities on our platform, and to prevent or detect security breaches, will provide absolute security, and we may incur significant costs in protecting against or remediating cyber-attacks.

If an actual or perceived breach of security occurs to our systems or a third party's systems, we may face actions against us by governmental entities (in particular given the White House, SEC, and other regulators' recent increased focus on companies' cybersecurity vulnerabilities and risks), data protection authorities, civil litigants, or others that could result in enforcement, litigation and financial losses, and the public perception of our security measures could be diminished and our reputation harmed, all of which would negatively affect our ability to attract and retain users, which in turn would harm our efforts to attract and retain advertisers, content providers, and other business partners. We would also have to expend significant resources to mitigate the breach and upgrade our security systems, and in most cases notify affected users and relevant data protection and regulatory authorities. In addition, any losses, costs or liabilities may not be covered by, or may exceed the coverage limits of, any or all of our applicable insurance policies. A data breach by service providers that are acting as our data processors (i.e., processing personal data on our behalf) would raise similar risks and obligations. Any of these events could have a material adverse effect on our business, operating results, and financial condition and could cause our stock price to drop significantly.

We face many risks associated with our international operations, including difficulties obtaining rights to stream content on favorable terms.

We are continuing to expand our operations into additional international markets. However, offering our Service in a new geographical area involves numerous risks and challenges. For example, the licensing terms offered by rights organizations and individual copyright owners in countries around the world are currently expensive. Addressing licensing structure and royalty rate issues in any new geographic market requires us to make very substantial investments of time, capital, and other resources, and our business could fail if such investments do not succeed. There can be no assurance that we will succeed or achieve any return on these investments.

In addition to the above, continued expansion around the world exposes us to other risks such as:

- lack of well-functioning copyright collective management organizations that are able to grant us music licenses, process reports, and distribute royalties in markets;
- fragmentation of rights ownership in various markets causing lack of transparency of rights coverage and overpayment or underpayment to record labels, music publishers, artists, performing rights organizations, and other copyright owners;
- difficulties in obtaining license rights to local content;
- increased risk of disputes with and/or lawsuits filed by rights holders in connection with our expansion into new markets;
- difficulties in achieving market acceptance of our Service in different geographic markets with different tastes and interests;
- difficulties in achieving viral marketing growth in certain other countries where we commit fewer sales and marketing resources;

- difficulties in managing operations due to language barriers, distance, staffing, user behavior and spending capability, cultural differences, business infrastructure constraints, and laws regulating corporations that operate internationally, including compliance costs associated with our recently adopted Work from Anywhere program, as our dispersed workforce will be subject to many different local laws and regulations;
- application of different laws and regulations of other jurisdictions, including corporate governance, labor and employment, privacy, cybersecurity, censorship, and liability standards and regulations, as well as intellectual property laws;
- potential adverse tax consequences associated with foreign operations and revenue;
- complex foreign exchange fluctuation and associated issues;
- increased competition from local websites and audio content providers, some with financial power and resources to undercut the market or enter into exclusive deals with local content providers to decrease competition;
- credit risk and higher levels of payment fraud;
- political and economic instability in some countries;
- region-specific effects of the COVID-19 pandemic;
- compliance with the U.S. Foreign Corrupt Practices Act, the U.K. Bribery Act, and similar laws in other jurisdictions;
- export controls and economic sanctions administered by the U.S. Department of Commerce's Bureau of Industry and Security and the U.S. Department of the Treasury's Office of Foreign Assets Control;
- restrictions on international monetary flows; and
- reduced or ineffective protection of our intellectual property rights in some countries.

As a result of these obstacles, we may find it impossible or prohibitively expensive to enter additional markets, or entry into foreign markets could be delayed, which could hinder our ability to grow our business.

Item 2. Unregistered Sales of Equity Securities and Use of Proceeds

Issuer Purchases of Equity Securities

On April 26, 2021, the Company issued 1,000,000 ordinary shares to its Netherlands subsidiary at par value and subsequently repurchased those shares at the same price. These shares are held in treasury in order to facilitate the fulfillment of option exercises and restricted stock unit releases under the Company's stock option and restricted stock unit plans.

During our 2021 annual general meeting on April 21, 2021, shareholders and holders of beneficiary certificates authorized our Board of Directors to repurchase 10,000,000 ordinary shares issued by the Company during a period of five years, for a price that will be determined by the Board of Directors within the following limits: at least the par value and at the most the fair market value.

Item 3. Defaults Upon Senior Securities

None.

Item 5. Other Information

None.

Table of Contents

SIGNATURES

Pursuant to the requirements of the Securities Exchange Act of 1934, the registrant has duly caused this report to be signed on its behalf by the undersigned, thereunto duly authorized.

Spotify Technology S.A.

Date: July 28, 2021

By: /s/ Paul Vogel
Name: Paul Vogel
Title: Chief Financial Officer

COEX-8.52

News (/blog)

Introducing paid subscriptions, made simple for you and your listeners

APR 27, 2021

The easiest way for all creators to offer paid content—and for listeners to directly support and enjoy your work.

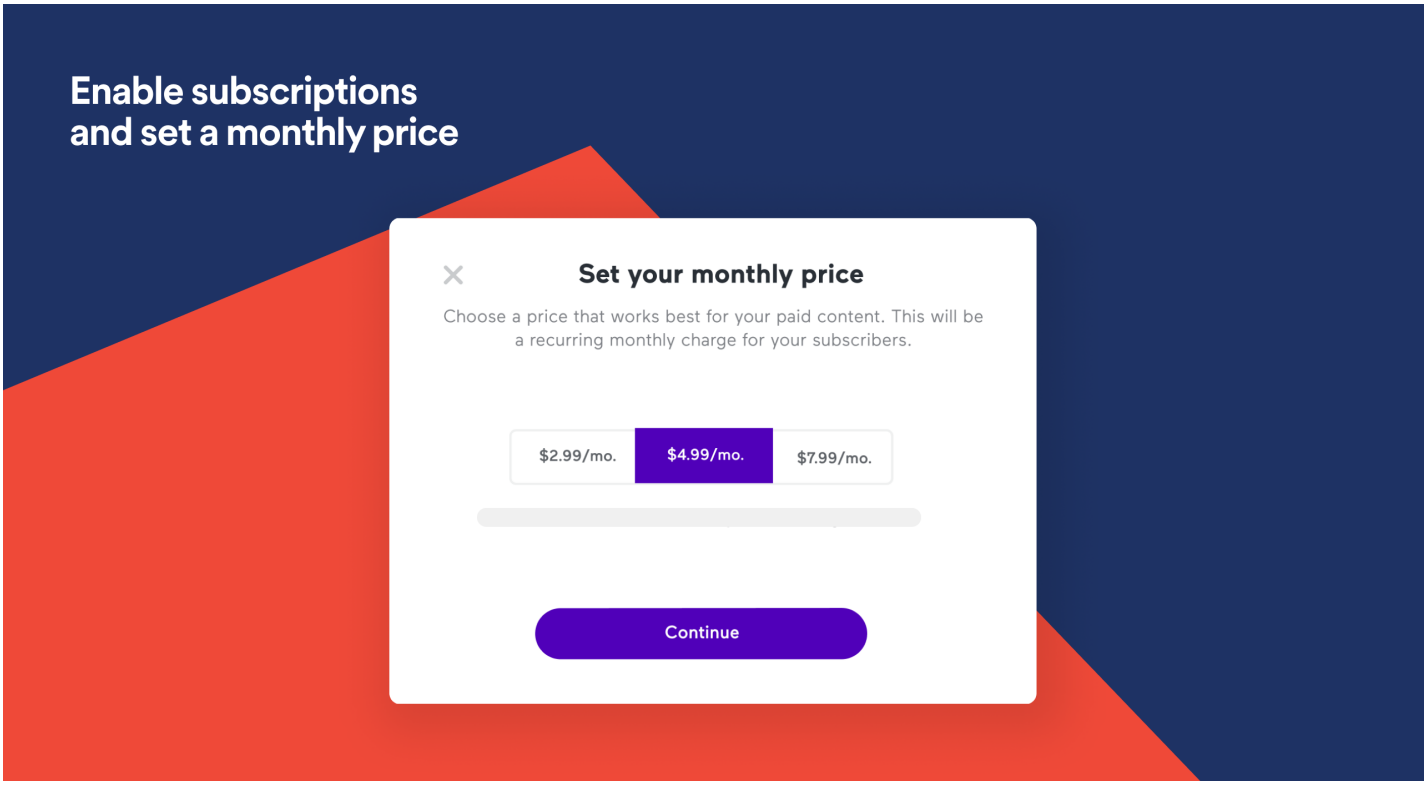
As we continue our goal of empowering creators to deliver their best content on their own terms, we're excited to announce the launch of our newest feature: paid subscriptions. It's the easiest subscription experience for creators, who save time with streamlined setup and management while keeping 100 percent of subscription revenue (excluding standard payment processing fees). Listeners enjoy seamless discovery, access to subscriber-only content, and the ability to listen on the app of their choice—while directly supporting creators. Paid subscriptions from Spotify and Anchor, Spotify's podcasting platform, provide a more predictable, stable source of revenue that creators control while engaging deeply with loyal fans.

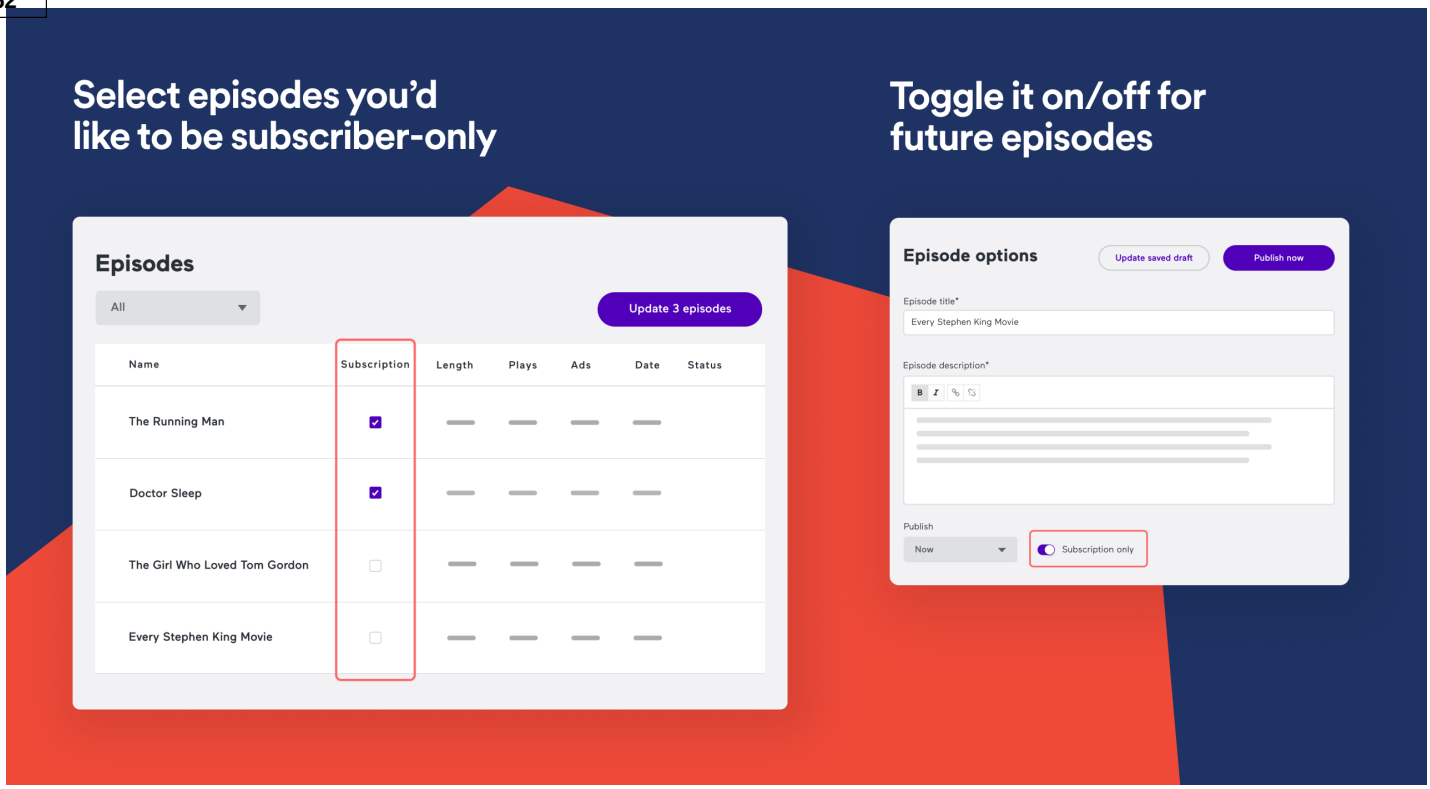
Starting today**, creators can sign up for access to paid subscriptions (http://anch.co/paidsubssignup) and enjoy no platform fees, keeping 100 percent of their subscription revenue* until 2023, when we plan to introduce a competitive 5 percent fee for access to this feature.

Sign up now (http://anch.co/paidsubssignup)

Simplest subscription setup

The setup couldn't be easier for creators, and it's all carried out right from Anchor (https://app.adjust.com/ydf973g):

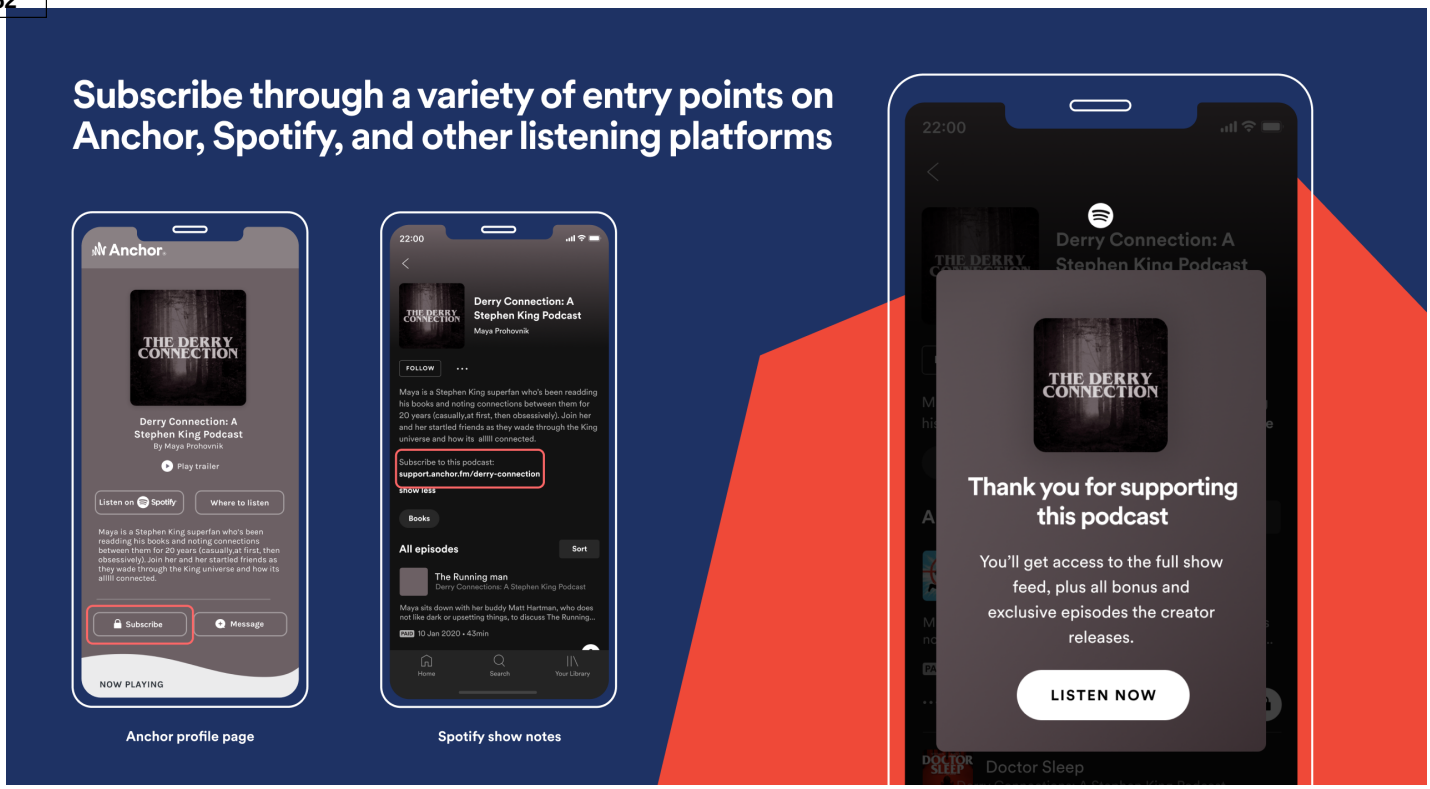




Regardless of your audience size, the simple setup process means all creators can be up and running with a paid subscription offering in minutes. Consolidate your podcast creation, hosting, distribution, and monetization in one robust, easy-to-use platform—so you can spend your time focusing on creating subscription-worthy content instead of headaches around managing separate feeds. Once you select your price point, it will apply to all your paid content. Then, just choose which episodes to make subscriber-only right from Anchor, and it'll be instantly reflected in Spotify.

From there, it's equally simple to manage your paid subscription and every other facet of your podcast.

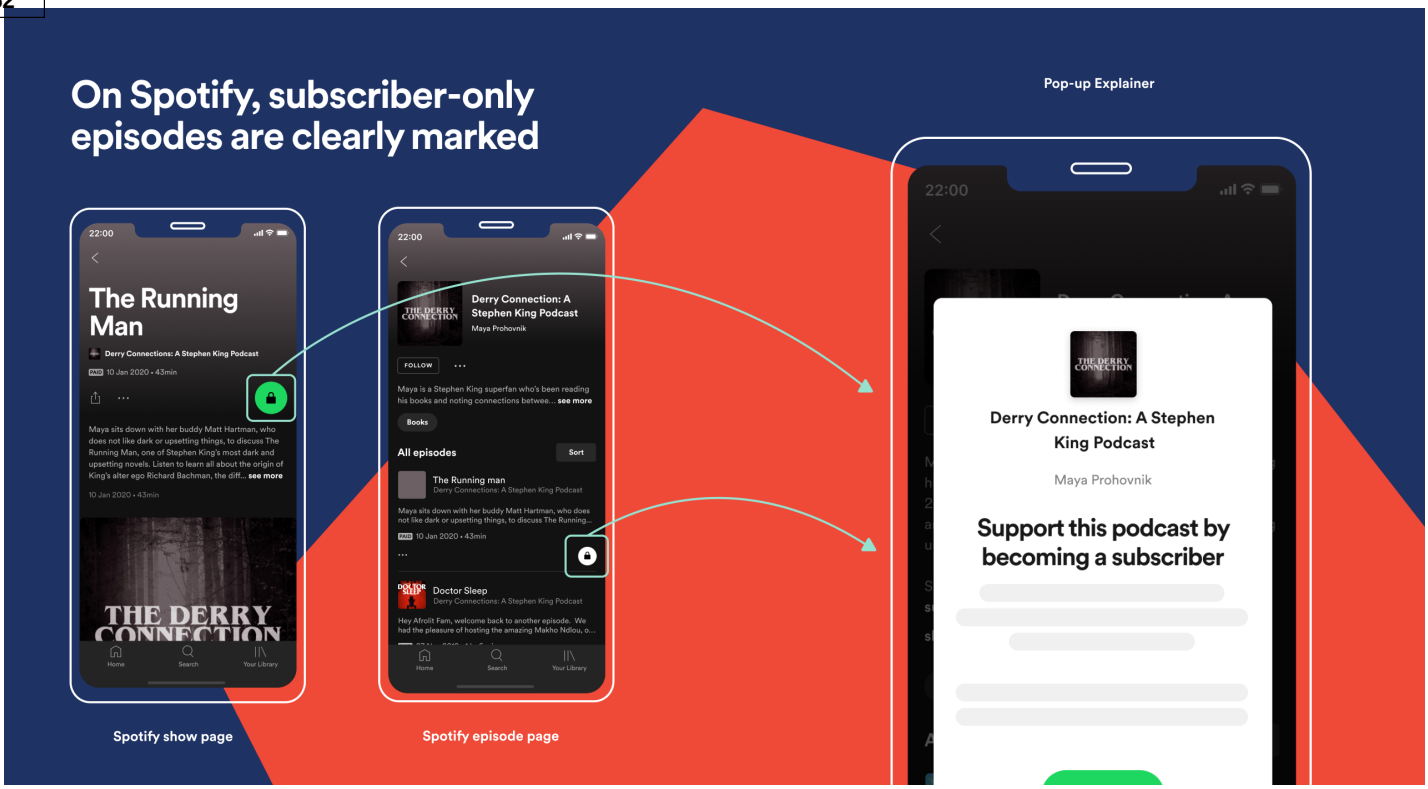
Increased revenue with ease



The most seamless discovery, subscription, and listening experience for your audience equals increased earning potential for you. It starts with a straightforward subscription process for listeners that immediately gives them access to paid episodes within your existing show feed in Spotify, meaning less friction and more supporters; your audience won't need to contend with RSS feeds or downloading a separate third-party app to listen. They'll still have the option of listening on the platform of their choosing through a private RSS feed, so you don't lose out on any potential subscribers. And with paid subscription content clearly marked on your show and episode pages in Spotify, listeners can easily see how to support you directly, thus presenting a bigger potential paid audience.

Subscriptions are a great source of recurring revenue, even for shows with smaller but loyal followings. They can prove a lot more lucrative and stable than ads for creators of all sizes: a flexible tool that lets you decide what type of paid content to offer—whether it's early access, bonus episodes, or something else. It all depends on what's right for your goals, audience, and time investment. And with 100 percent of subscription revenue* going straight to the creator for the next two years as well as no flat fees*, there's never been a better time to explore your monetization strategy.

Your listeners, your community



As part of paid subscriptions, we anticipate giving creators priority access to Anchor's recently announced Q&A feature (https://blog.anchor.fm/streamon), allowing them to take paid content even further by inviting their most loyal supporters to interact directly with the show. We also expect to add functionality in the near future that enables creators to contact their subscriber base directly, making it easier for you to connect with loyal fans and offer additional perks like merch, promo codes, and more.

For listeners, it's now easier than ever to discover bonus content and support creators on a platform they use and trust—even if they'd prefer to listen somewhere else. And creators can receive support from listeners while offering them something of value in return, deepening the connection with your biggest fans by welcoming them into your show's community.

Interested in setting up a paid subscription for your podcast? Sign up here (http://anch.co/paidsubssignup)! Not on Anchor yet? Set up your free Anchor account (https://anchor.fm/signup) or switch (http://anchor.fm/switch) your show over in minutes.

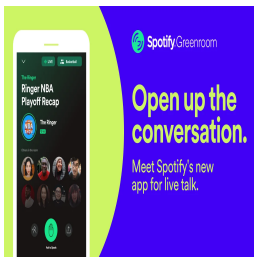
* Excluding standard payment processing fees
** Paid subscriptions are only available in the U.S. at launch, but we intend to expand to creators in additional markets in the coming months.

Related Posts

COEX-
8.52

Introducing Q&A and Polls: Bring your listeners into the mix (/blog/interactivity)

Podcast Subscriptions now available to all creators in the U.S. (/blog/podcast-subscriptions-us)



Introducing Spotify Greenroom: Live audio that brings creators and fans together (/blog/greenroom)

Get the Full Podcast Picture with Spotify's New & Improved Charts (/blog/get-the-full-podcast-picture-with-spotifys-new-and-improved-charts) ›

HELPFUL LINKS

About (https://www.spotify.com/about-us/contact/)

Press & Media (https://press.spotify.com)

Legal (https://www.spotify.com/us/legal/spotify-for-artists-terms-and-conditions/)

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Privacy Policy (https://www.spotify.com/legal/privacy-policy/)

Cookies (https://www.spotify.com/legal/privacy-policy/#s13)

COEX-8.53

Spotify's Podcasts Subscriptions service is now open to all US creators

techcrunch.com/2021/08/24/spotifys-podcasts-subscriptions-service-is-now-open-to-all-u-s-creators

Sarah Perez

Sarah Perez @sarahintampa / 1 month

Spotify today is opening access to Podcast Subscriptions to all podcast creators in the U.S., after first launching the service for testing with a smaller number of creators back in April. Through Spotify's podcast creation tool Anchor, podcasters of all sizes will now be able to mark select episodes as subscriber-only content, then publish them to Spotify and other platforms. Since launch, more than 100 podcasts have adopted subscriptions, Spotify says. Based on the early feedback from these creators, the company is now making a couple of key changes to both pricing and functionality as the service becomes more broadly available.

> Spotify launches paid podcasts through new Anchor feature

Before, creators could choose between one of three price points: either $2.99, $4.99 or $7.99 per month. Creators were able to choose which price point made the most sense for their audience.

But the company learned that creators wanted even more flexibility in pricing, which is why it's now expanding the number of price points to 20 options, starting as low as $0.49 and then increasing all the way up to $150.

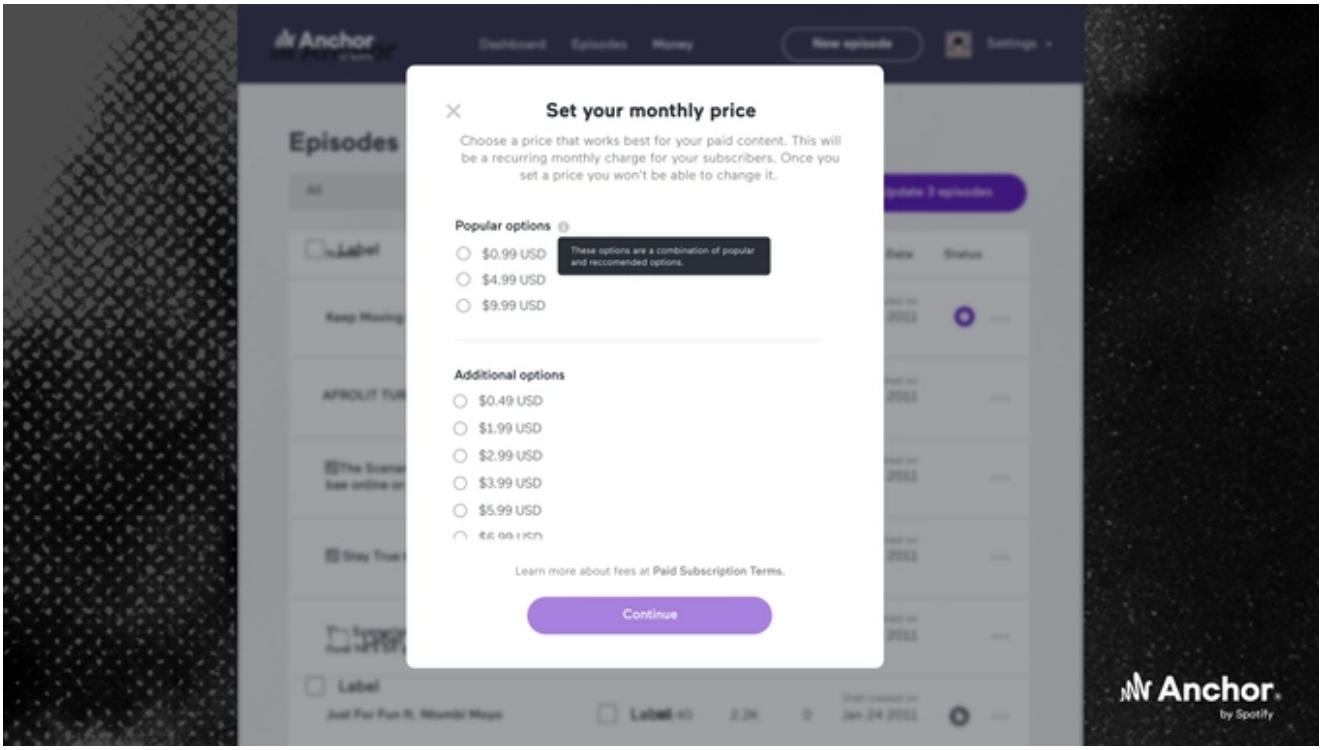


Image Credits: Spotify

Spotify explained that its research found that creators wanted some sense of where to start with pricing, rather than offering a completely open-ended system. That's why the pricing isn't something creators today manually enter. Going forward, Spotify will show the three price points that tested well — $0.99, $4.99 and $9.99 — before listing the other 17 options. Of those three, the company told us $4.99 was the best performing.

In addition to the ability to set pricing and gain access to a private RSS feed that can be used by listeners who prefer using a different podcast app, Spotify will now offer podcast creators the ability to download a list of contact addresses for their subscribers. This allows them to further engage with their subscriber base to offer them more benefits, the company notes. It could also be a selling point for creators who would otherwise not want to get on board with a paid subscription offering like this, if it meant losing out on a more direct relationship with their customer.

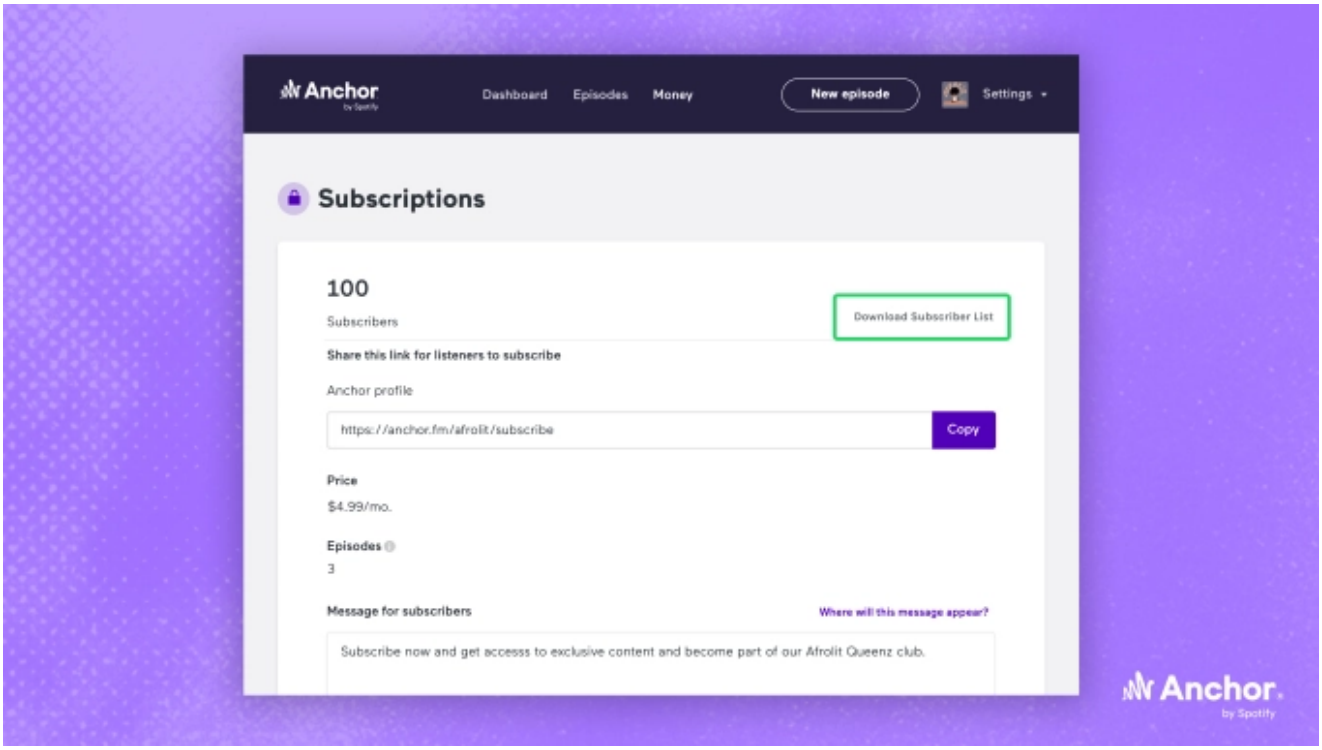


Image Credits: Spotify

Spotify is not the only service offering paid podcasts. Apple recently announced its own podcast subscription platform. But Spotify's is currently the more affordable of the two. Apple will take a 30% cut from podcast revenue in year one, dropping to 15% in year two — similar to other subscription apps. Spotify, meanwhile, is keeping its program free for the next two years, meaning that creators keep 100% of revenues until 2023. After that, Spotify plans to take just a 5% cut of subscription revenues.

With this first step into a marketplace model, it's notable to see Spotify — a staunch Apple critic in the antitrust fight — taking such a small percentage of creator revenues. Spotify has argued for years that Apple's cut of Spotify's own subscription business is an anticompetitive practice, especially since Apple is a business rival via its subscription-based Apple Music service, and now, its podcast subscriptions, too.

> Europe charges Apple with antitrust breach, citing Spotify App Store complaint

Today, Spotify hosts a number of subscription-based podcasts, including bigger names like NPR (which is on Apple's paid podcasts service, too), as well as independent creators like Betches U Up?, Cultivating H.E.R. Space and Mindful in Minutes. Creators who choose to work with Spotify aren't locked in — they can share private RSS fees with their customers and publish to other platforms, like Apple Podcasts.

Apple's subscription podcast service works a bit differently, as creators can offer subscriptions to individual shows or groups of shows called "channels," or even freemium access. However, creators on Apple's platform collect customer emails through links in the

show notes, which open in-app. Spotify creators, by comparison, redirect subscribers to subscribe to their shows via URLs provided inside the Spotify app. On the resulting webpage, listeners can sign up and provide their email.

The news of Spotify's broader launch for Podcast Subscriptions follows a growing chorus of complaints from podcasters that Apple's own subscriptions service is off to a rough start. A report from The Verge documented creators' complaints about bugs, confusing user interfaces, interoperability issues and more. In the meantime, Spotify claims its waitlist for creators interested in its podcast subscriptions had "thousands" of sign-ups.

The company says it will expand access to international customers soon. Starting on September 15, international listeners will gain access to subscriber-only content. And shortly after, creators will gain access to Podcast Subscriptions, too.

> More thoughts on growing podcasts

COEX-8.54

Spotify Ushers In New Era of Podcast Monetization With New Tools for All Creators

newsroom.spotify.com/2021-04-27/spotify-ushers-in-new-era-of-podcast-monetization-with-new-tools-for-all-creators/

April 27, 2021

More and more creators are bringing their podcasts and shows to Spotify. With 345 million monthly listeners on Spotify, there's a massive opportunity for all of these creators to monetize their work—and we believe there needs to be a variety of options for them to choose from to do so.

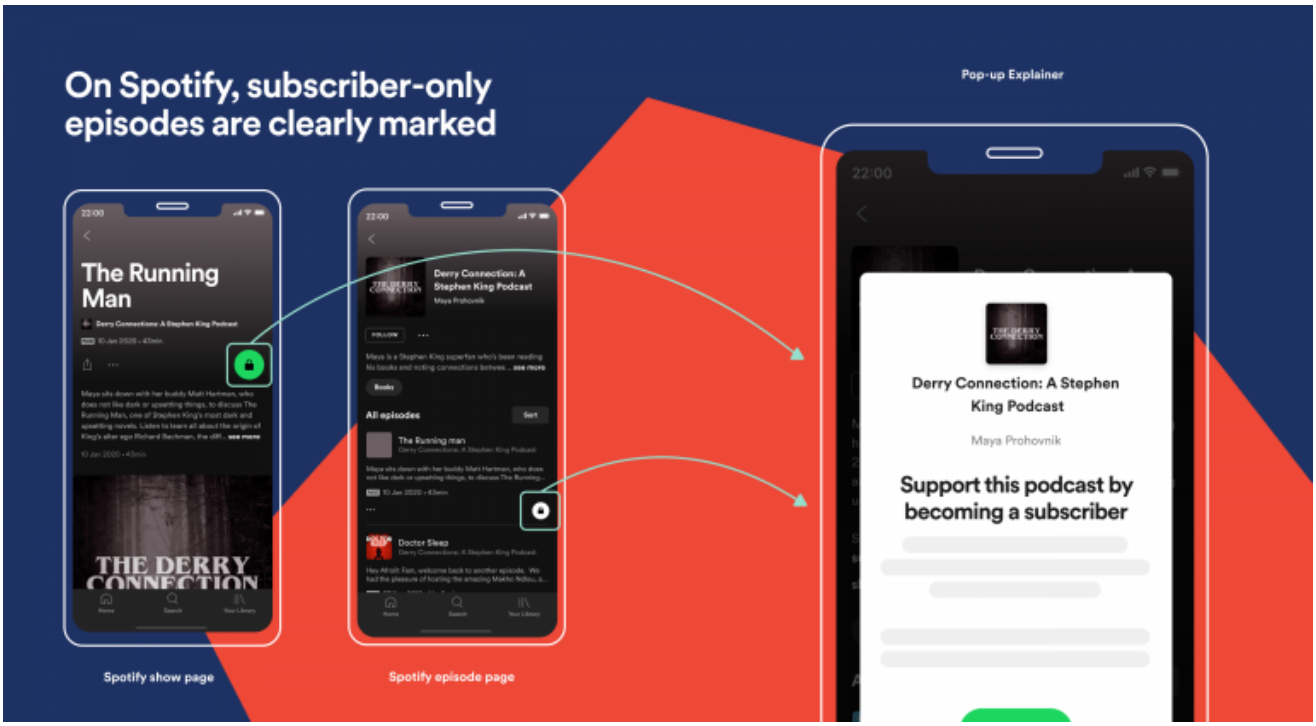
At Stream On, we shared that we'd be launching more choices for podcast monetization: a native solution on Spotify to power paid podcast subscriptions, and the activation of independent creators as part of the Spotify Audience Network. Today begins the rollout of our monetization options for all creators: with Paid Subscriptions, Spotify's Open Access Platform, and bringing independent creators into our Spotify Audience Network.

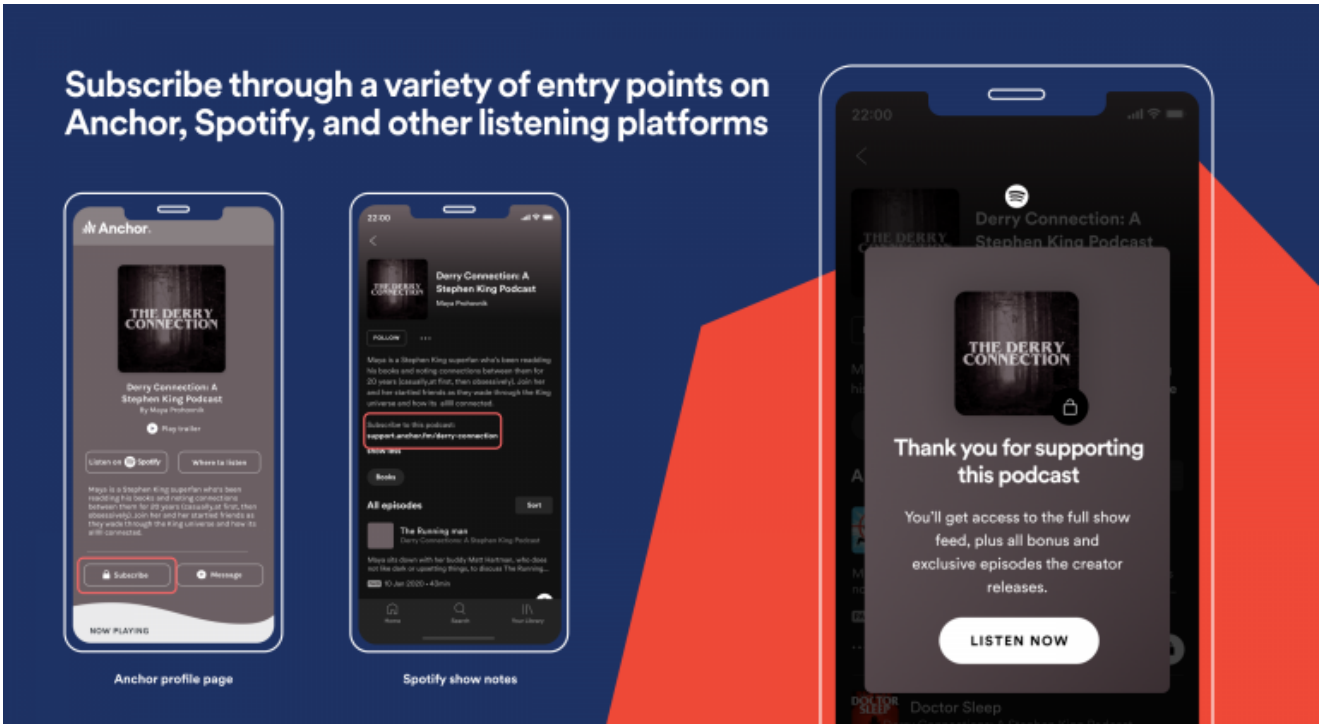
Paid subscription platform

Today, we're rolling out a paid subscription platform for podcasters that gives them maximized revenue, wide reach, and discoverability. The program begins rolling out in the U.S. today and will expand internationally in the coming months.

This feature will be available to creators through Anchor, allowing podcasters to mark episodes as subscriber-only and publish them to Spotify and other podcast-listening platforms. For the next two years, this program will come at no cost to the creator, meaning that participating creators receive 100% of their subscriber revenues (excluding payment transaction fees). Starting in 2023, we plan to introduce a competitive 5% fee for access to this tool.

By enabling wide distribution of subscriber-only content, our aim is to help podcasters maximize their subscription audiences and grow them from their existing listener bases. Within Spotify, this content will be searchable and discoverable like any other podcast episode.





The first group of participating creators includes 12 independent podcasters who are each uniquely well positioned to succeed in gaining meaningful revenue from their audiences. These creators will publish subscriber-only bonus content in their existing podcast feeds.

Starting now, we're also going to begin accepting submissions from our waitlist, effectively expanding the program to more creators and the rest of the world over the coming months.

We're also unveiling a collaboration with NPR in which they will publish a selection of their shows sponsor-free for paid subscribers. Five shows will be available starting May 4—*How I Built This with Guy Raz*, *Short Wave*, *It's Been a Minute with Sam Sanders*, *Code Switch*, and *Planet Money*—with more to come in the following weeks. Look for NPR shows marked as "Plus" (for example, *Planet Money Plus*) to subscribe to sponsor-free content from NPR and support the shows you love.

Listeners can look forward to a seamless Spotify listening experience. This subscriber-only content will be fully searchable and discoverable within the Spotify app, and even show up within a show's main feed—shows will be marked with a lock icon on the play button. Listeners will be able to tune in knowing that their subscriptions are going directly to the podcasters they love, giving independent creators a revenue stream on their own terms.

Spotify Open Access Platform (OAP)

Are you a creator or publisher who has subscribers elsewhere? We're also working on technology that will let your listeners hear your content on Spotify using your existing login system. This gives creators with existing subscriber bases the option to deliver paid content to their existing paid audiences using Spotify, retaining direct control over the relationship.

Stay tuned: We're currently testing the technology and will have more to share in the coming months about partners and features.

Spotify Audience Network

At Stream On, we announced the Spotify Audience Network—a first-of-its-kind audio advertising marketplace in which advertisers of all sizes will be able to connect with listeners consuming a broad range of content. We've already unlocked Megaphone publisher inventory via the network, and starting May 1, we will begin to open Spotify Audience Network to select independent creators using Anchor, so more people can have access to this unique tool.

We believe this technology will enable more creators to make meaningful revenue from their podcasts by providing much better value to advertisers than existing podcast advertising solutions that use RSS. This will ultimately bring more dollars (and more-efficient spending) into the space, benefitting creators who choose to monetize through advertising.

Curious to know more? Check out Anchor's blog for more on how the Paid Subscription program works for creators.

COEX-8.55

Most Popular

JPMorgan's Jamie Dimon shares his personal belief 'that Bitcoin is worthless'

Hundreds of millions of Chinese jab recipients need to be vaccinated again

Nearly 90% of Americans now use fintech—with boomers the fastest-growing demo

TECH • SPOTIFY

Spotify Stock Goes Public, Giving the Streaming Music Giant a $30 Billion Market Cap

BY **BLOOMBERG**
April 3, 2018 1:57 PM EDT

Spotify Technology SA shares climbed in the minutes after it began trading through a direct listing.

The stock jumped 22 percent to $161.44 at 12:53 p.m. in New York after opening at $165.90 apiece. The company skipped the traditional initial public offering process in favor of a route rarely taken by large, established companies.

Based on the total number of shares outstanding after the listing, Spotify has a market value of about $28.7 billion.

Spotify isn't selling any shares and there's no lockup period for company insiders or, with one exception, current shareholders. That means the company's first public share price, the open price, was set based purely on supply from existing shareholders wanting to sell stock and demand for those shares.

That's in contrast with an IPO, in which the company and potentially a few existing shareholders offer a set number of shares at a valuation they think the market will bear. Then underwriters hammer out how many shares investors want and at what price.

Spotify's stock got off the ground with the help of advisers Goldman Sachs Group Inc., Morgan Stanley and Allen & Co. and designated market maker Citadel Securities LLC. Morgan Stanley was mandated to help Citadel Securities determine the open price based on supply and demand intel gleaned from conversations with existing and potential investors.

The shares are trading on the New York Stock Exchange under the ticker SPOT.

COEX
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Quotes delayed at least 15 minutes. Market data provided by Interactive Data. ETF and Mutual Fund data provided by Morningstar, Inc. Dow Jones Terms & Conditions: http://www.djindexe
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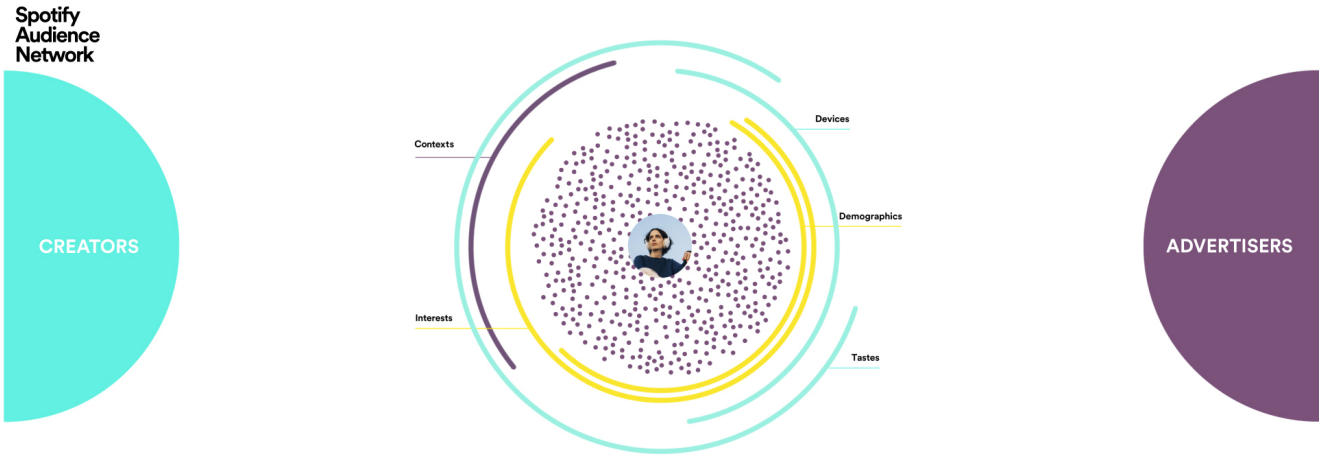
COEX-8.56

A New Era for Podcast Advertising

newsroom.spotify.com/2021-02-22/a-new-era-for-podcast-advertising/

February 22, 2021



Over the last year, Spotify has made significant moves to modernize audio advertising. From the launch of Streaming Ad Insertion to the expansion of our self-serve ad platform, Ad Studio, to the acquisition of Megaphone, we're committed to ensuring this industry reaches its full potential.

Today, we announced an exciting leap forward for audio advertising, creating a path for creators to earn more for their work while delivering greater impact for advertisers.

We believe that this space is primed for innovation as digital audio becomes an integral part of consumers' daily routines worldwide. According to eMarketer, in the U.S., mobile time spent listening to audio content is now outpacing time spent on social media, video, and gaming.

It's no secret that podcasts have played a pivotal role in the rise in audio consumption. Their intimate nature makes them an ideal medium for advertisers looking to connect with engaged listeners who are ready to learn, discover, or be entertained. Read on to learn about how we're powering the next era of innovation for the entire audio advertising ecosystem.

Introducing the Spotify Audience Network

The Spotify Audience Network is a first-of-its-kind audio advertising marketplace in which advertisers of all sizes will be able to connect with listeners consuming a broad range of content. These include Spotify's Originals & Exclusives, podcasts via Megaphone and Anchor, and ad-supported music. We'll leverage our medium-defining technology to give

advertisers the ability to reach our audience of hundreds of millions of listeners—at scale—both on and off Spotify. We are in the early stages of developing this offering and look forward to sharing more in the coming months.

Unlocking new features on Streaming Ad Insertion

At the top of 2020, we unveiled Streaming Ad Insertion (SAI), which delivers the intimacy and quality of traditional podcast advertising with the precision and transparency of modern-day digital marketing. SAI introduced an entirely new set of data-driven insights to podcast advertising, including a full digital suite of planning, reporting, and measurement solutions. SAI is available in the U.S., Canada, Germany, and the UK, and we plan to launch in additional markets later this year.

Over the past year, we have been refining SAI with our Originals & Exclusive content and now are ready to scale our innovation. We're unlocking more product features, like audience-based buying, native ad placements, and reporting on creative performance, all of which play a key part in powering the Spotify Audience Network. Later this year, we'll start to make this technology available to Megaphone podcast publishers and leading Anchor creators.

Simplifying podcast advertising with Spotify Ad Studio

The best way for advertisers to get started with Spotify Advertising is through our self-serve platform Spotify Ad Studio. Spotify Ad Studio makes streaming audio advertising accessible to advertisers of all sizes, from Fortune 500 brands to artist teams to local coffee shops. Through Spotify Ad Studio, advertisers have the power to reach our audience of hundreds of millions of listeners and leverage our streaming intelligence to ensure their message is heard by the right listeners, at the right moment.

Today, we'll begin beta testing podcast ad buying on Spotify Ad Studio in the U.S. The introduction of podcasts to Spotify Ad Studio makes it simple for any advertiser to connect with engaged listeners at scale, whether they're streaming their favorite podcast or discovering a new playlist.

These advancements—the Spotify Audience Network, Streaming Ad Insertion, and podcast buying via Spotify Ad Studio—will benefit creators, advertisers and listeners for years to come. We spoke to HBO Max's Vice President of Growth Marketing, **Katie Soo**, to get her thoughts about how the streaming platform is leveraging Spotify as part of its marketing mix.

"During the launch of HBO Max, our strategy was to expand our reach and align with digital audio to find entertainment seekers. We turned to Spotify, given its audio-first strategy, scale and cutting-edge technology, to address both of these key pillars," noted Soo. "Our early campaigns have been successful, and we plan to continue partnering with Spotify to explore what's possible in this growing medium."

To learn more about these paradigm-shifting innovations, head over to Ads.Spotify.com.

COEX-8.57
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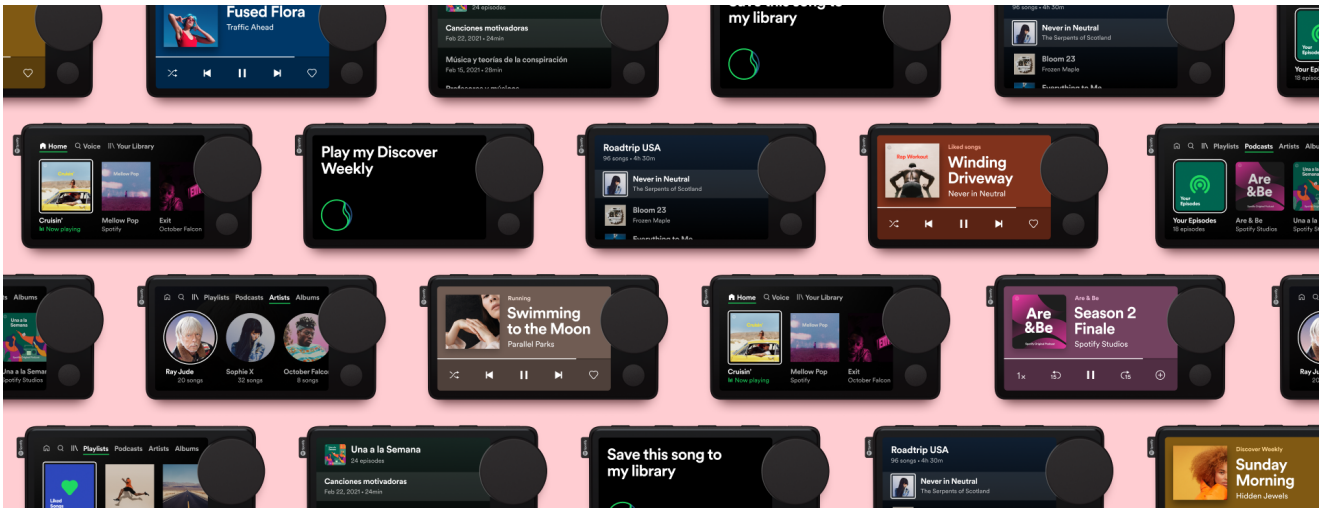
FILED UNDER SEAL

COEX-8.58

Spotify Launches Our Newest Exploration: A Limited Release of Car Thing, a Smart Player for Your Car

newsroom.spotify.com/2021-04-13/spotify-launches-our-newest-exploration-a-limited-release-of-car-thing-a-smart-player-for-your-car/

April 13, 2021



Between work commutes, taking the kids to school, daily errands, and road trips, Americans spend countless hours on the road. It's no surprise, then, that there are over 70 million user-generated driving-related playlists on Spotify. No matter where you're headed, Spotify is the perfect companion in the car, thanks to the many ways to listen to Spotify and our curated playlists, like Daily Drive and Songs to Sing in the Car. And today, we're excited to announce our newest exploration: a limited release of **Car Thing**, a new smart player that fills your car with music, news, entertainment, talk, and more.

Currently available to eligible users in the U.S., Car Thing enables you to play your favorite audio faster, so you're already listening to that hit song or the latest podcast episode before you've even pulled out of the driveway. Switching between your favorite audio is effortless, allowing you to shift gears to something else as soon as the mood strikes. And when it comes to controlling the device, use it in the way that works best for you, whether that's voice, touch, or physical controls. Take a look:

Our focus remains on becoming the world's number one audio platform—not on creating hardware—but we developed Car Thing because we saw a need from our users, many of whom were missing out on a seamless and personalized in-car listening experience. No matter the year or model of your vehicle, we feel everyone should have a superior listening experience. With Car Thing, we'll now be bringing our entire catalogue of music and podcasts to a wider range of users across an even wider range of vehicles.

The limited release of Car Thing is not meant to compete with in-car infotainment systems. Instead, it's another step in our larger ubiquity strategy—creating a truly frictionless audio experience for our users, wherever they are and however they choose to listen.

Car Thing makes the entire experience, from setup to navigation, simple and seamless. Here's how it works:

- **Use voice control for easy access.** Spotify's voice search lets you quickly play specific music or podcasts, and can even help you find something new. Just say "Hey Spotify," then ask for a song, album, artist, playlist, station, or podcast. With four microphones along the top, Car Thing can understand what you're asking to play, even with the music turned up or your windows down.

- **Try the dial for a hands-on way to steer to the audio you love.** You can also browse deeper, curating the perfect soundtrack to wherever you're headed. Use the dial to browse, select, play, pause, and discover.
- **View the touch-screen display to see what's playing.** You can also use the screen to see what's in your library, as well as results from voice search. Swipe to browse further or skip, or tap to play.
- **Choose four preset buttons to get to your favorites faster and then change them anytime.** They'll always bring you the newest podcast episodes and up-to-date news.

Car Thing from Spotify is currently a limited product launch, available in the U.S. on an invite-only basis. For a set time, Car Thing is available at no cost (*excluding shipping*) to select Spotify listeners. Car Thing requires a paid Spotify Premium subscription plan and a smartphone with WiFi or mobile data connection. Eligible paying subscribers only. One Car Thing per eligible subscriber, while supplies last. Terms apply.

Hit the gas and join the wait list at carthing.spotify.com.

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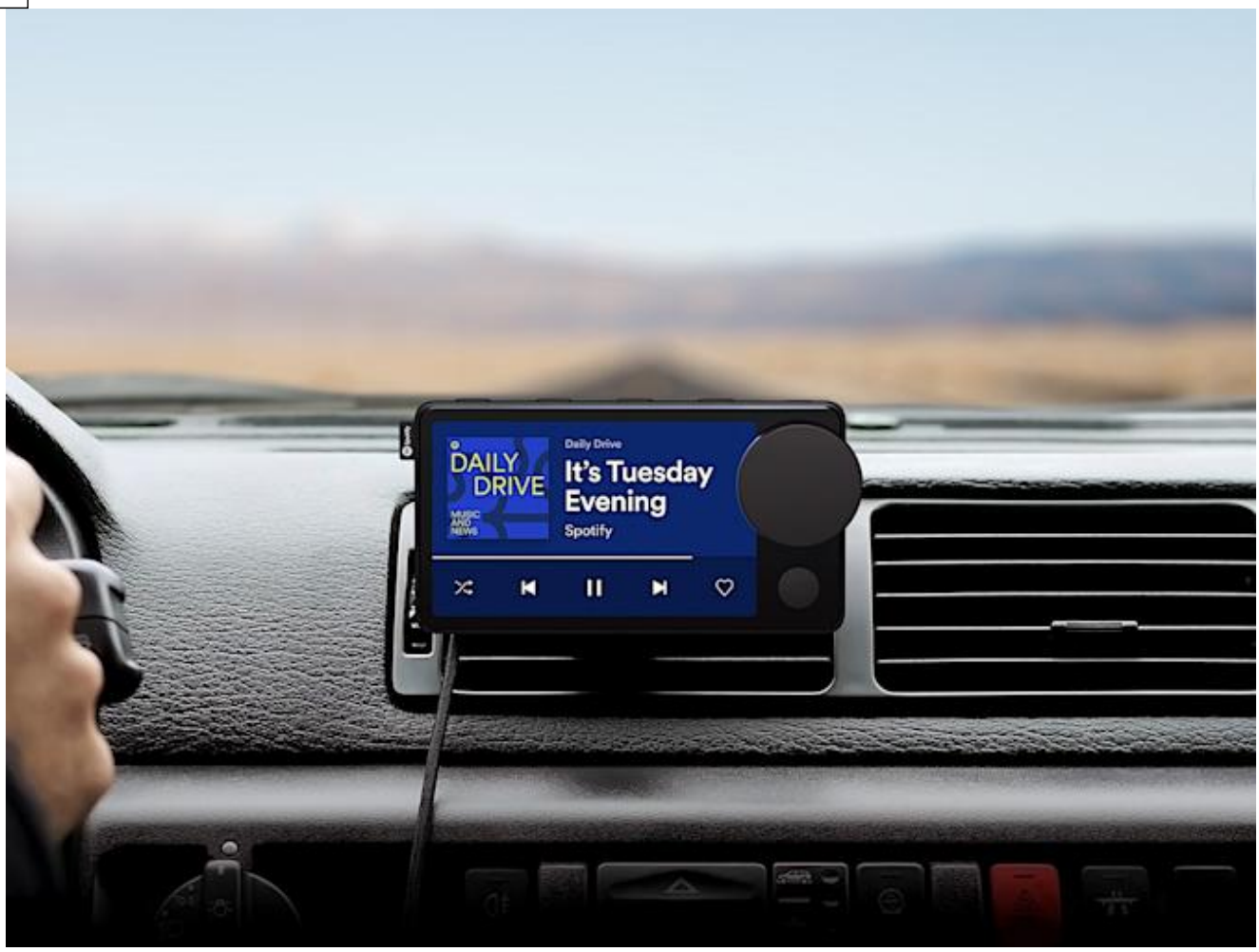
Spotify's voice-controlled 'Car Thing' is available for some subscribers

engadget.com/spotify-car-thing-limited-release-specs-availability-130029605.html

Billy Steele

B. Steele
April 13th, 2021

In this article: car thing, news, gear, music streaming, audio, voice assistant, spotify, entertainment, voice control, infotainment, music, voice, streaming



Spotify

At this point, we've seen rumors, job listings, blog posts, FCC filings and more rumors about Spotify's in-car music player over the span of a few years. In fact, I was convinced it would never become *a thing* the public could actually use. When the company first revealed a piece of hardware called "Car Thing" in 2019, Spotify was clear the test was meant "to help us learn more about how people listen to music and podcasts." It also explained that there weren't "any current plans" to make that device available to consumers. Now Spotify is ready for select users to get their hands on a refined version of the voice-controlled in-car player.

Gallery: Spotify Car Thing | 5 Photos

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Back in 2019, the company pretty much tipped its hand entirely on Car Thing. First and foremost, it's a dedicated player for Spotify's music and podcast library. As most things are these days, the device can be controlled by voice ("Hey Spotify"), but it has a dial, touch screen and preset buttons for physical interaction as well. Car Thing connects to your phone via Bluetooth and it's powered by the 12-volt port. The device can connect to your car stereo wirelessly via Bluetooth or wired with an aux or USB jack. In either case, your phone is the internet connection and the ticket to Spotify content while the Car Thing is mostly a controller and display. The company includes CD player, dash and vent mounts in the box for you to choose from.

The gadget is noticeably smaller than a smartphone, though it kind of resembles one due to the touch screen. It also reminds me of the satellite radio receiver I used in the pre-merger days of Sirius and XM Radio. Four preset buttons along the top allow you to save your favorite music, podcasts and news for one-touch access. Spotify says those four items are also stored for offline playback. You can press and hold one of them to save whatever is playing or use a voice command to set them hands-free. You can also say "Hey Spotify" to play each of the presets if you can't, or don't want to, press any of the buttons.

To navigate through your content library, you can rotate the dial and press it or tap on the screen to see specific track details for a playlist, album or podcast. Underneath the dial is a back button that takes you to the Now Playing screen, returns to Home or to closes the player interface. Like Spotify's Car View, the UI is simplified on the player, serving up album art and basic controls with bold fonts for visibility. Overall, the interface design is very similar to the company's mobile apps.

Spotify

Spotify is showing off its voice control abilities with Car Thing. The company just added its own voice assistant to its mobile apps last week, and that tech gives you the option to use this hardware hands-free when needed. You can ask the helper to play or show anything from artists and songs to podcasts and playlists. “Hey Spotify” is handy for searching and playing what you’re looking for without reaching for the device, but it can also assist with saving songs to your library. The company says Car Thing’s four microphones will ensure the voice setup hears your commands even when music is playing or the windows are rolled down.

In terms of content, Car Thing displays separate tabs for playlists, artists, albums and podcasts that you’ve saved to your library. Shortcuts on the Home screen are personalized and updated throughout the day based on your listening activity. And of course, you’re free to search for anything in Spotify’s massive collection of music and podcasts if you need to stream something else.

Spotify is adamant a “limited release” of Car Thing doesn’t mean the company is now focused on creating hardware. It explains that it “saw a need from our users, many of whom were missing out on a seamless and personalized in-car listening experience.” The company says that Car Thing offers “a superior listening experience” no matter the year or model of

your car. Spotify also explains that the hardware isn't solely a means of collecting user data either. While the company does gather voice and usage info (including audio recordings) to improve the hardware, it says it isn't collecting any more data than it does inside its mobile apps.

Spotify

“The limited release of Car Thing is not meant to compete with in-car infotainment systems,” Spotify explains in a blog post. “Instead, it’s another step in our larger ubiquity strategy — creating a truly frictionless audio experience for our users, wherever they are and however they choose to listen.”

Car Thing is currently available as a limited product launch in the US only. And to get one, you’ll need an invite. Sign-ups are live now at a website dedicated to the device. Spotify is making the hardware available for free during this early period, but users will be required to pay shipping costs. The company says it's doing this because Car Thing is its first hardware and it wants to learn as much as possible in the early stages. As you might expect, you’ll need a Premium subscription and a phone with mobile data or WiFi connectivity in order to use Car Thing. Free users aren’t eligible for this “limited release.”

Spotify says if the device becomes a full-fledged product, you can expect to pay around $80 for it. There's no confirmation that will happen, or a timeframe for further news on the matter. However, the company explains that it would like to open up wider availability in the future — including more languages and regions. But since this is just an "exploration," it's starting with English.

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USA TODAY

MONEY

SiriusXM to buy Pandora streaming radio service for $3.5 billion

Nathan Bomey USA TODAY

Published 7:46 a.m. ET Sept. 24, 2018 | **Updated 7:12 p.m. ET Sept. 24, 2018**

On-demand audio continues to shake up the radio business as Sirius XM Holdings announced Monday it reached a deal to acquire online streaming service Pandora Media.

Sirius, which markets itself as SiriusXM, agreed to deliver stock currently worth about $3.5 billion to fully acquire Pandora.

The satellite radio company, which already owns about 15 percent of Pandora, said it would maintain both the Sirius XM and Pandora brands and services. But it also appeared to leave open the possibility of a shift, saying there would be "no immediate change in listener offerings."

The deal comes as the radio industry grapples with digital competition in the form of streaming music apps and podcasts. SiriusXM and Pandora have competed for business.

SiriusXM has more than 36 million subscribers in North America. Pandora, which provides free and paid music streaming, has more than 70 million monthly listeners.

Competitors include streaming service Spotify and tech giant Apple Music.

Terms of the deal will allow Pandora to pursue an alternative acquirer for a higher price, a standard practice in the mergers-and-acquisitions business that could result in the emergence of a different suitor.

SiriusXM hopes the deal will help it diversify its business by further extending its reach outside of car radio subscriptions.

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"Through targeted investments, we see significant opportunities to drive innovation that will accelerate growth beyond what would be available to the separate companies, and does so in a way that also benefits consumers, artists, and the broader content communities," SiriusXM CEO Jim Meyer said in a statement. "Together, we will deliver even more of the best content on radio to our passionate and loyal listeners, and attract new listeners, across our two platforms."

The deal calls for SiriusXM to pay the equivalent of $10.14 a share for Pandora, which rose 8.6 percent in premarket trading Monday to $9.87.

SiriusXM's stock fell 2.3 percent to $6.82.

Follow USA TODAY reporter Nathan Bomey on Twitter @NathanBomey.

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S&P Global
Market Intelligence

Pandora Media, Inc.

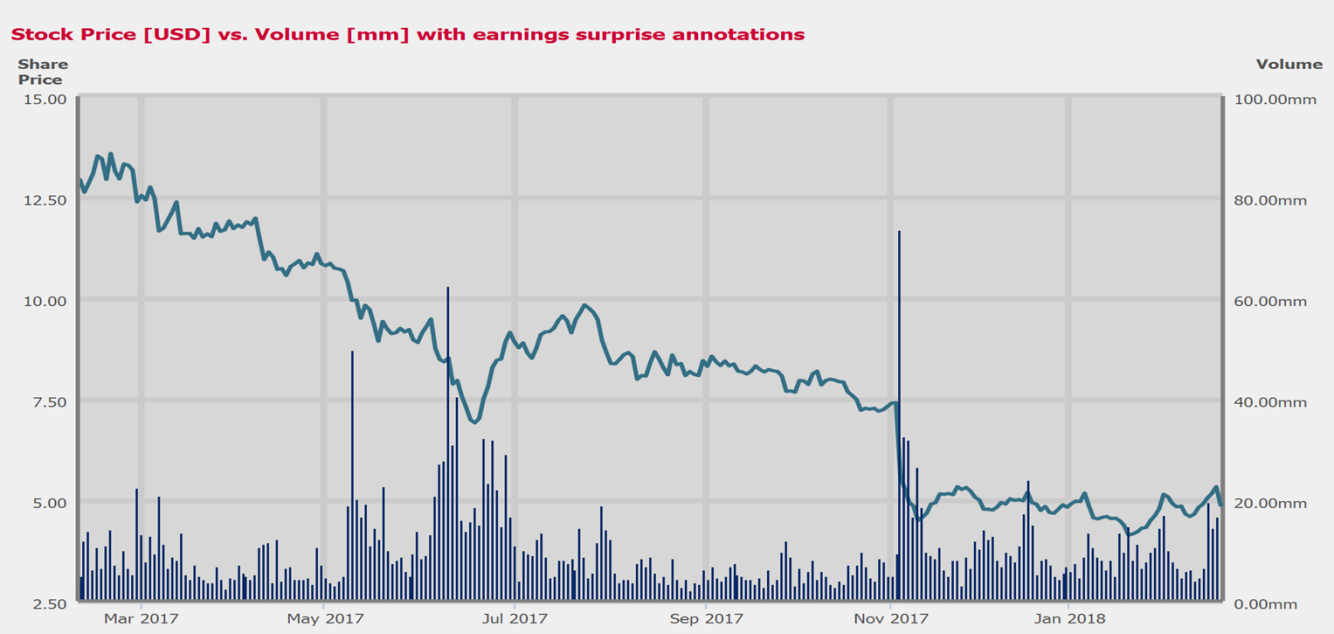
FQ4 2017 Earnings Call Transcripts

Wednesday, February 21, 2018 10:00 PM GMT

S&P Global Market Intelligence Estimates

	-FQ4 2017-			-FQ1 2018-	-FY 2017-			-FY 2018-
	CONSENSUS	ACTUAL	SURPRISE	CONSENSUS	CONSENSUS	ACTUAL	SURPRISE	CONSENSUS
EPS Normalized	(0.07)	(0.21)	NM	(0.25)	(0.59)	(0.72)	NM	(0.36)
Revenue (mm)	376.79	395.34	▲4.92	324.60	1447.79	1466.81	▲1.31	1552.77

Currency: USD
Consensus as of Feb-21-2018 4:52 PM GMT



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	CONSENSUS	ACTUAL	SURPRISE
FQ1 2017	(0.33)	(0.24)	NM
FQ2 2017	(0.24)	(0.21)	NM
FQ3 2017	(0.08)	(0.06)	NM
FQ4 2017	(0.07)	(0.21)	NM

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Presentation

Operator

Welcome to Pandora's Fourth Quarter 2017 Financial Results Conference Call. Opening today's call is Derrick Nueman, Vice President, Pandora. Sir, you may begin your conference.

Derrick L. Nueman
Vice President of Investor Relations

[indiscernible] and welcome to Pandora's fourth quarter 2017 financial results call. Before we begin, let me remind everyone that today's discussion will contain forward-looking statements based on our current assumptions, expectations and beliefs, including projected financial results or operating metrics, business strategies, anticipated future products or services, anticipated market demand or opportunities and other forward-looking topics. For a discussion of the specific risk factors that could cause our actual results to differ materially from today's discussion, please refer to the documents we file with the Securities and Exchange Commission. Also, during this call, we will discuss non-GAAP measures of our performance. GAAP financial reconciliations and supplemental financial information are provided in the press release filed with the SEC. And detailed financials are available on our Investor Relations site.

Today's call is available via webcast, and a replay will be available for 2 weeks. We will also post the full text of today's prepared remarks once they have been concluded. You can find all of the information I have just described on the Investor Relations section of pandora.com.

On today's call, joining me are Roger Lynch, Pandora's President and CEO; and Naveen Chopra, Pandora's Chief Financial Officer.

With that, let me turn over the call to Roger.

Roger J. Lynch
Former President, CEO & Director

Thanks, Derrick, and as you all know, this is his first Pandora earnings call and we're all excited to have him here.

Good afternoon, everyone. I've been at Pandora for 5 months now and having had a chance to dig in, I'm even more excited about the opportunity. We continue to set the standard for music discovery, and as a result, our users spend more time with Pandora than any other digital publisher as measured by comScore. With nearly 75 million monthly active users, Pandora remains the largest streaming audio provider in the United States and is the largest publisher of digital audio advertising, which all means that we are really well positioned to enter a new era of audio.

What do I mean by this? Digital audio is on the verge of massive growth. Americans listen to an average of 4.5 hours of audio a day, and in the past 2 years alone, time spent listening to music grew about 40%. This trend is going to continue upward as we see explosive growth in connected and voice-activated devices and rapidly increasing consumption of other forms of content, such as podcasts. To put it in perspective, we expect one out of every 2 people will have a connected device in their home by 2022, and this will encourage incremental audio listening.

These trends are early signs of a broader sea change in the world of audio. Just like broadcast, video, newsprint and most other forms of media, audio is transitioning from a one-to-many broadcast experience to a one-to-one model with personalization at the core. This means the $16 billion terrestrial radio market will increasingly move to digital models where listeners enjoy a better experience and advertising could be targeted and data-driven.

As I described last quarter, we are well positioned to take advantage of this transition. But first, we need to address our challenges head on. We're starting to do just that, and during Q4, we began executing on many of the initiatives I outlined on the Q3 call. Q4 was an important first step towards these goals.

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Naveen will share more specifics about the quarter after I share some highlights on our efforts to drive users, improve monetization and create long-term operating improvements and leverage.

Starting with users. Although it's too early to expect the initiatives we identified last quarter to shift the trajectory in our audience metrics, we're pleased with the launch of several important initiatives across product, marketing and partnerships that we expect will improve audience retention and engagement over the course of 2018.

On the product front, we previously highlighted the importance of adding more interactive features to our ad-supported service. And in late Q4, we took a major step with the launch of Premium Access. Premium Access is a product that addresses the largest reason listeners use other services. They want to listen to a specific song or artist but can't do so without a subscription. With the launch of Premium Access, Pandora users can now unlock a window of robust on-demand music listening in exchange for viewing a short video ad. They're able to search for a specific song or artist and share direct playlist links with their friends. This not only delivers a more complete experience to our listeners, but it opens new promotional opportunities for artists to feature their latest tracks and albums. And it also unlocks new rewards-based video inventory for our advertisers. With this new product offering, we now have more compelling and complete functionality in our mobile ad-supported service than any other competitor.

Premium Access also represents the simplest and easiest way to try Pandora Premium for a limited period of time, an experience that we expect to become a highly effective acquisition channel for our subscription service. Later this quarter, we will start our marketing of Premium Access, engaging artists and creating more doorways so that users on our ad-supported service can more easily find a new functionality and search for any artist or song they want.

Nonetheless, early results are encouraging. We're seeing higher repeat sessions among Premium Access users, more use of Premium Access by younger users and better conversion to our Pandora Premium subscription product, especially by younger listeners.

While Pandora's ad-supported service remains the biggest part of our business, our subscription products continue to perform well. We added approximately 300,000 subscribers in Q4 and grew subscription revenue 65% year-on-year, excluding Australia and New Zealand. As much as people want to paint us as either an ad-supported business or a subscription service, I'm a firm believer that we need to meet consumers where they are. While we're the largest ad-supported music service and we intend to press this advantage, I do see significant opportunity to grow our subscription business and utilize the tactics I've learned from running 3 other subscription businesses prior to this.

Also on the product front, we've achieved spectacular listener growth through voice-activated devices. In Q4, Pandora listening on voice-activated devices was up 145% year-over-year. Given the expected growth in voice-enabled speakers, we believe this trend will continue. Our continued investment in audio experiences, voice and personalization will help drive sustained momentum in this rapidly evolving market.

During Q4, we also announced a number of device partnerships, including Comcast, XFINITY X1, Sonos, Amazon Fire TV and Android TV. These are important because they enable our full suite of ad-supported and subscription services as well as Premium Access in the future on all of the devices consumers care about. This is a critical part of our plan to grow, and these announcements are a taste of what we expect will be many more during 2018.

We've spoken about our intention to expand beyond music by adding podcasts to Pandora's wealth of audio content. Podcasts are a natural first step because of Pandora's ability to address the biggest headwinds to podcast growth: discoverability and monetization. Our strengths in these areas, combined with our advertising scale, provide us the ability to bring podcasts to market in a way no one else has to date.

I also believe Pandora can make more effective use of an important component of the audience equation, marketing. This past quarter, we announced that we're investing in mar-tech tools that leverage our strength in data science, which we already use very effectively in both our consumer and advertising offerings. We're bringing in a team that can take advantage of this approach, led by our new CMO, Aimée

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Lapic. I look forward to seeing Aimée's analytics-driven approach and our increased capabilities improving the effectiveness of our marketing spend as we've progressed throughout the year.

Moving on to monetization. Last quarter, we spoke about our need to invest in ad tech, including increased focus on programmatic, which will leverage many of the strong capabilities we already have: scale, targeting and innovative ad formats. I'm happy to report our programmatic video offering is in beta, and yesterday, we announced our audio programmatic pilot with Volkswagen, Omnicom Media Group and top DSPs, including The Trade Desk, MediaMath and AdsWizz AudioMatic. These offerings are expected to drive RPM growth over time by increasing sell-through and optimizing CPMs. Of course, there are other important ad-tech initiatives, including new ad formats, ROI measurement, self-serve and better automated tools. We've also mentioned that we are exploring build-and-buy options to tackle these, and we've made meaningful progress on those plans. We'll share further details as 2018 progresses.

Shifting to our organizational efforts. We recently announced we've undertaken several steps to fund the strategic priorities I just outlined. As I stated on our Q3 earnings call, we'd first focused on internally funding these investments by reallocating funds within our current cost structure, and we've done just that by identifying approximately $45 million in annualized adjusted EBITDA cost savings to put towards these efforts. We've also made changes to our org structure to drive more innovation and faster execution. And finally, we're increasing our presence in Atlanta, a city with a rich history in music, that also gives us access to a wealth of talent that can be hired and retained at lower cost than in the Bay Area.

In closing, I'm confident that we're taking the right steps to reinvigorate Pandora, this means driving more listeners to our platform and a continued focus on monetization. From launching on-demand for our ad-supported listeners, to our programmatic efforts, we made progress on several important initiatives in the last quarter alone. I expect them to help accelerate our business as 2018 progresses and enable us to take full advantage of the rising importance of digital audio.

Thanks, and now I'll hand it over to Naveen.

Naveen Chopra
Former Chief Financial Officer

Thanks, Roger. Financially, Q4 came in significantly better than previously expected. But more importantly, as Roger detailed, we're excited about the progress made on several key initiatives that are critical to improving future financial performance through a return to active user growth and enhanced monetization. I'm going to share some additional color on our Q4 results and then address guidance. Please note that for the purposes of our comments today, we'll exclude Australia, New Zealand and Ticketfly from year-over-year comparisons for revenue, operating expenses, actives and hours.

Q4 total revenue was $395.3 million, growing approximately 7% year-over-year. This was driven by a 65% year-over-year increase in subscription revenue, partially offset by a year-over-year decline in advertising revenue.

The growth in subscription revenue was driven by subscriber growth and higher ARPUs. In the fourth quarter, we added approximately 300,000 subscribers, bringing cumulative subscribers to 5.48 million. ARPU increased to $6.08 as strong growth in Pandora Premium subscribers, which have a higher monthly ARPU, continued to offset declines, albeit at a slower rate of decline than in Q3, in Plus subscribers.

Q4 advertising revenue was better than our expectations because a greater proportion of ad buys were placed later in the sales cycle than we typically see in the fourth quarter. However, ad revenue fell year-over-year primarily due to a decline in active users.

Ad RPM grew 12% year-over-year to a record $75.65 in Q4. The strong ad RPM reflected a meaningful increase in blended effective CPMs and a slight increase in ad load, offset by a modest decline in sell-through. It's also worth noting that mobile ad RPM exceeded web RPM for the first time ever. 5 years ago, mobile ad RPMs were half that of web RPMs. We highlight this because it speaks to the potential of new platforms and ad formats. Today, we have a major focus on driving listening through the new generation of CE devices, like smart speakers. Those platforms don't monetize well today due to limitations in ad tech

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and relatively nascent advertiser demand, but that will evolve in much the same way mobile has evolved. And we want to ensure that Pandora is positioned to benefit from continued proliferation of these devices.

Speaking of monetization gains, one of our highest-priority initiatives is enabling programmatic sales. And as Roger noted, we continue to make steady progress on that front. We're excited about the potential of our programmatic efforts to enhance sell-through and optimize pricing by tapping into new demand without having to rely on low-priced performance-based ad channels as the company did in early 2017. We believe the combination of programmatic and other ad-tech initiatives will drive continued monetization improvements over time.

Moving to the audience part of the equation. Total monthly active users were 74.7 million in Q4, down 6% year-over-year. A few things worth pointing out about these metrics. First, we were more conservative with our marketing spend in the back half of 2017 as we felt it was prudent to allow time to further refine Premium Access functionality, leverage in-process mar-tech investments and build out our marketing ROI framework. While financially disciplined, this approach meant a 46% year-over-year reduction in Q4 paid marketing spend, which had an impact on active users. And as I said before, stabilizing and then growing our audience is of the utmost importance, and we have a number of initiatives underway or launching soon that are designed to both further engage our existing users and reengage lapsed listeners. Premium Access is one of the first of these initiatives, and early results are encouraging. Although it won't happen overnight, we are bullish about the potential for Premium Access as well as other initiatives on our road map, like nonmusic content, to drive incremental engagement and ad listeners.

Total content costs represented approximately 55% of revenue in the fourth quarter. While Q4 ad LPM was slightly lower versus Q3 at $36.77, we had anticipated a larger sequential decline. Some of the minimum guarantees we incurred in Q3 were avoided, but these benefits were unfortunately and unexpectedly largely offset by minimum guarantee payments to other content owners whose music was not played as frequently as forecasted. We expect ad LPMs to continue to fluctuate a bit due to the impact of MGs and ongoing changes to our arrangements with content owners.

On the subscriber side, Q4 licensing cost per subscriber or LPU was $4.41, up from $3.12 last year. These increases are largely driven by the mix shift from Pandora Plus to Premium.

Non-GAAP gross margin was 38% compared to 36% in the year-ago quarter. The increase in margin year-over-year is driven by higher ad RPM, and we continue to expect gross margins to grow over time with improvements in ad monetization and as we achieve scale benefits in the subscription side of the business.

Turning to operating expenses. For the fourth quarter of 2017, non-GAAP operating expenses declined 6% year-over-year, driven by decreases in marketing spend and reduced G&A and sales and marketing headcount. The combination of better-than-expected revenue and continued discipline on OpEx led to adjusted EBITDA for the fourth quarter of $5.8 million. We have and will continue to look for opportunities to improve operating leverage while focusing investment in high-priority areas. This was the basis for the company-wide reorganization we announced in January. The reorg resulted in annualized savings of approximately $45 million in adjusted EBITDA. The savings will be reinvested in growth initiatives. The key point here is that our focus on efficiency enables us to make material growth investments without creating incremental headwinds to profitability or cash flow.

Fourth quarter 2017 GAAP net loss per share was $0.21. This is based on approximately 250 million weighted average common shares outstanding. Cash and investments ended the fourth quarter slightly up at $500.8 million, with $7.9 million of cash provided by operating activities.

Now let's move to guidance. As we've referenced, there are a number of moving pieces in our businesses here. The timing of ad-tech developments, label negotiations, new content launches, distribution partnerships, marketing changes and ongoing cost efficiency efforts, all have the potential to materially impact short-term results. Therefore, we think it's prudent to avoid specific annual guidance until we have additional data points. For now, we will provide some high-level direction regarding our expectations for the year and then provide specific guidance for Q1.

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So for the year, we expect top line growth in 2018 to come from the subscription side of our business, and we're taking actions to stabilize audience and improve monetization that will ultimately lead to growth in advertising revenue. Because we are expecting strong subscription revenue growth, subscription commissions will also grow. Other than this increase in commissions, operating expenses will represent a lower percentage of revenue in full year 2018 than in 2017. Our ambition is to deliver additional efficiencies beyond the $45 million of reinvested savings we previously identified. These additional efficiencies should come through tighter business processes, automation, expansion in lower-cost locations and management of content costs. And importantly, we anticipate meaningful improvement in operating cash flow in 2018 versus 2017.

With that context for the full year, I'd like to address Q1 more specifically. As noted, many of our growth initiatives are still in early stages and their impact will build over the course of 2018. This means that Q1 will incur a lot of the same ad revenue headwinds as the second half of 2017.

We expect Q1 total revenue in the range of $295 million to $305 million, the midpoint of which reflects 5% growth versus the year-ago period when adjusting for Ticketfly and NAV.

A couple of things to note about our Q1 revenue guide. We expect typical seasonality in 2018, which means Q1 is the weakest quarter for advertising revenue, with significant pickup from Q2 through Q4. Our Q1 revenue guidance assumes continued subscription growth offset by a year-over-year decline in advertising revenue. We expect adjusted EBITDA in Q1 2018 to be in the range of a loss of $100 million to a loss of $90 million, which you will notice is lower than the year-ago period. This is a function of minimum guarantees and to a lesser extent, the year-over-year decline in ad revenue. However, we think Q1 is a relatively unique quarter and that there should be significant sequential and year-over-year improvement in adjusted EBITDA as we move into Q2. In fact, cumulative adjusted EBITDA for the Q2 through Q4 period should be meaningfully improved versus the comparable period in 2017.

Please note that adjusted EBITDA differs from GAAP net loss in that it excludes forecasted stock-based compensation expense of approximately $29 million, depreciation and amortization expense of approximately $14 million, restructuring cost of approximately $9 million, other expense of approximately $5 million and provision for income taxes of approximately $300,000 and assumes minimal cash taxes given our net loss position.

Basic shares outstanding for the first quarter of 2018 are expected to be approximately 255 million.

Before we open the call for questions, I want to underscore a point that Roger made in his remarks about our long-term outlook and the growing importance of audio. We are bullish about creating value in this business by combining our existing assets, namely the scale of our audience and strength in ad-based monetization, personalization and data, with the execution plan we detailed last quarter. That plan includes a number of initiatives to reinvigorate audience metrics and restore growth in advertising revenue. I think it's a smart plan and one which we will continue to optimize.

As we've highlighted in Q3, it's not an overnight plan, meaning there will be some bumpiness as we invest for the future. But that bumpiness does not change our conviction regarding the long-term opportunity and the potential to deliver improved returns for our shareholders.
With that, I'll turn the call to the operator, who will open the line for your questions. Operator?

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Question and Answer

Operator

[Operator Instructions] Your first question is from Michael Graham from Canaccord.

Michael Patrick Graham
Canaccord Genuity Limited, Research Division

Just 2 quick questions. One is on the CPM's strength in Q4. Can you just go into a little more detail about where you are seeing those types of ad units, or was it demographically driven? And then I just wondered, you're making a lot of constructive comments about subscription this quarter, which is consistent with the past. And I'm just wondering if you could give us an update on sort of how you're thinking about the relative profitability between subscription and ad-supported and just sort of any interplay between those 2 sets of listeners that you're seeing or that you're trying to engineer.

Roger J. Lynch
Former President, CEO & Director

Okay. Thanks. It's Roger. Let me start with -- I'll actually answer your second question and hand it over to Naveen to answer the first question on CPM. Yes, we are bullish on subscription. We think that, clearly, within music, we're seeing across the industry strong growth in subscription and in particular, for us with Premium, which we only launched in April, strong growth. And we expect to see continued growth for that. We think we're well positioned for it because the scale of our listener base gives us the ability to upsell our ad-supported listeners to subscription. And with Premium Access that I talked about in the prepared remarks, that's also proven to be a very effective upsell conversion mechanism, especially for younger listeners, into Premium. So on average, we see Premium subscribers as being a higher contribution margin than in an average ad-supported listener. But obviously, within ad-supported, there's listeners who listen a lot that can be quite profitable and listeners who listen less that it will be less profitable. It's much more of a mix within our ad-supported business. Let me hand it over to Naveen to talk about the CPM.

Naveen Chopra
Former Chief Financial Officer

Yes, Michael, on CPMs, as we said, we had some positive movement on that front. Overall, CPMs were up a little over 10%. I think the 2 particular areas of strength we would point to, both the audio and display CPMs, were up measurably. Video, which already monetizes at a premium rate, held relatively consistent. But both audio and display, we saw some nice gains on CPM.

Operator

Your next question is from Anthony DiClemente with Evercore.

Unknown Analyst

This is [Kevin] for Anthony. I was wondering if you could talk a little bit more just about the strength we saw in the advertising revenue. Was there any particular verticals, or was the strength more broad-based? And the second, if you could go a little more by color on the opportunity in podcasts, obviously, a lot of engagement there and sort of your strategy as it pertains to pursuing talent, pursuing new content. Anything there would be really interesting.

Roger J. Lynch
Former President, CEO & Director

Sure. It's Roger. So as I mentioned, we did see strength in the end of the quarter. And in terms of verticals, it was retail, it's probably the one that stands out the most. In terms of strategy on content, we view the -- a big opportunity for us in podcasts because we think that -- if you look at the podcast market today, it's growing quickly, but yes, in terms of revenue, it's not that meaningful yet. And we think that the 2 big things that podcasts suffer from happen to be our 2 core strengths, and that is discovery

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and monetization. So if you think about how most people discover podcasts today, they go to a chart and see what's listed on the charts. And that's -- there's nothing personalized about that. That's a popularity contest. Imagine if you had to discover music that way or Pandora never created the Music Genome Project that enabled people to discover music. So we think there's a lot that we can bring to the discovery of a broadly digital audio, but in particular, podcasts. And then on the monetization front, that's obviously a core strength of Pandora. We're about 2/3 of the digital audio advertising marketplace, and just our strength in targeting and data will be something that we think will benefit quite materially for forms of content like podcasts. So for us, it's less about putting a bunch of titles on into our apps, it's more about creating the discovery and monetization capabilities like we have for music for podcasts, and then once we've created that, launch the content. So it's not a big bang thing that you will see short term, it's investment that we're making now. You'll see us increase what we're doing on podcasts. We have ample podcasts today. That will increase throughout the year, but there will be a lot going on behind the scenes in terms of investment to create the experience that I just described.

Operator

Your next question comes from Rich Greenfield with BTIG.

Richard Scott Greenfield
BTIG, LLC, Research Division

I guess when you look at the decline in listening hours, Roger, how do you think about how much -- well, first of all, where do you think those consumers are going? Are you losing to terrestrial radio, people staying with terrestrial radio? Are you losing to competitors like Spotify? Like how do you look at that competitive landscape? And then when you think about your plan to kind of invest marketing dollars over the year ahead, it sounds like they were down a lot in Q4. How do you look at kind of the competitive response? Because it seems like a lot of your competitors are ramping their focus on music. YouTube just redid their deal with a lot of labels. And just how do you -- what's kind of built into that plan that you just kind of talked about for revenue and user growth over the coming year from a competitive standpoint?

Roger J. Lynch
Former President, CEO & Director

Yes, Rich. The #1 reason people started using other services, when I say people, I mean, Pandora listeners, started using other services like YouTube or Spotify, was actually 4 of the top 5 reasons if you look at the surveys we have when we survey former listeners, are all restatements of the same thing, which is I couldn't play the song or album or playlist that I wanted because of the lean-back nature of the original Pandora product. We solved that on December 19 when we launched Premium Access. So we -- from a reason why people would go to other services, we just plugged that hole. We also created a whole new opportunity for us on the marketing side where we still had to -- we have to build some capabilities. But if you think about really a lot of like what we did at Sling TV, what we call tune-in marketing, right, using content to drive activations, we have that ability now because with Premium Access, we can bring someone to mark it down, whether it's on Facebook or Twitter, wherever it is, using the data that we have. Remember, we have hundreds of millions of accounts that have been created, so we have personal preferences on hundreds of millions of people in the U.S. So we can market to them using that data about specific content, bringing them on to the platform and let them play the content. That was something we couldn't do before. So we plugged the hole in terms of why listeners leave and we also created new gateways that as we build out some of the marketing technologies that I talked about and the team, they're going to able to pull those levers in a lot of ways that will drive engagement back to our platform. So in terms of where we're going to spend marketing, it is going to be skewed much more heavily than it has been in the past to performance-based marketing. So it's what I call doing personalized marketing at scale. So creating the technologies and the capabilities that connect our data with our new product capabilities and marketing technology tools that allow us to do outreach at scale and drive people on the platform. And so that's where we'll be spending. In terms of competitive response to that, I don't know. Competitors are always going to be obviously trying to improve what they do, and any move we make will be, I'm sure, followed by competitors. But I'm quite confident in our abilities, in our growing abilities to use these capabilities in a way to change the trajectory of our listeners.

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Richard Scott Greenfield
BTIG, LLC, Research Division

And maybe just given your focus on Premium Access, could you give us any sense of, from a cost standpoint, did that require new label agreements? Is it just purely a revenue share on the ads that you've kind of put before people can click on an individual song that they specify? Just how does that work financially?

Roger J. Lynch
Former President, CEO & Director

Yes, let me have Naveen answer that question for you, Rich.

Naveen Chopra
Former Chief Financial Officer

Yes, hey, Rich. Obviously, we can't comment on all the details of the arrangement with the labels on that stuff. But I think you should assume that we do pay an incremental fee, or I'd say, a higher fee in order to provide the interactive capability. But we are taking advantage of the fact that one of the things that Pandora is so good at is kind of taking the interactive experience and then allowing people to transition to more of a lean-back mode, where they keep listening in a radio context. And by doing that, we're able to drive the overall cost down. And in addition, the fact that we put a high-value video ad at the entry point to the content creates a pretty nice equation for us in terms of the amount of revenue that we can generate relative to the cost of the content that we play during the session.

Operator

Your next question comes from Amy Yong with Macquarie.

Amy Yong
Macquarie Research

I guess, 2 questions. So first off, on active listeners, they are up nicely. What's actually resonating among your listeners? And maybe if you could parse out the contribution from connected devices. And how do you plan on keeping that momentum up? And then, I guess, Naveen, you spoke a lot about gross margin improvement and operating leverage. Wondering if you could help us frame how profitable you think the business can go ultimately.

Roger J. Lynch
Former President, CEO & Director

Okay. Yes, Amy, let me answer the first part on active listeners. Seasonally, we always see -- Pandora always sees an uptick in December due to holiday listening, and so that always drives Q4 reported MAUs, and 2017 was no different than prior years. I think in terms of what's resonating with listeners, that's really more to come on things that we're doing around Premium Access that I've already talked about. Let me let Naveen answer the other question.

Naveen Chopra
Former Chief Financial Officer

Yes, I think specific to the question on margin improvement, I think we see opportunities both from a gross margin improvement and ultimately driving operating leverage in the business. I think on the gross margin side, it's really the dynamics that we've referenced in our prepared remarks. We think that there's opportunities to continue to build spread between RPMs and LPMs on the ad-supported side. There are also scale benefits as the subscription business grows. We qualify for lower rates with a number of our content deals, which is helpful. And then, as I think you know today, those margins are sort of artificially depressed by the fact that we are incurring MGs on a number of the content deals. And then on the operating side, you saw some of the potential based on things that we announced in January. Obviously, in this case, we're reinvesting a lot of those savings. But the things that enabled us to identify that opportunity, I think there's more to come there. We think there's a lot that we can accomplish through

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automation. We've talked about hiring more people in other locations, which allows us to hire more quickly, more efficiently and retain those people at lower cost. And so I think those things will all benefit us down the road as well. We don't have any specific financial targets to give you on those things at this point, but I think we're headed in the right direction.

Operator

Your next question comes from Barton Crockett with B. Riley FBR.

Barton Evans Crockett
B. Riley FBR, Inc., Research Division

I appreciate the approach to guidance here, and I understand there's a lot of moving pieces. But I did want to try and understand one of the big moving pieces a little bit better, and that is the gross margin view as you look through the year. I understand you're saying that you expect improvement in, I guess, EBITDA and improvement in OpEx as a percent of revenues. But how should we think about gross margin? Is that something that, over the year, gets better, gets worse? It seems like if ads are down, that's kind of a mixed headwind, but you're renegotiating label deals. Do you expect that the constituent pieces between subscription and advertising have significant gross margin trajectories? What can you tell us about that?

Roger J. Lynch
Former President, CEO & Director

Yes. Barton, I think the question kind of highlighted a number of the moving pieces as you said. I think what we can add to that is there's obviously a high degree of seasonality in our gross margins because of the way that the advertising revenue works, and I think you'll continue to see that play out in 2018. I also would not underestimate the impact of the MG issues that we've highlighted. As I said a minute ago, those really do have an impact on gross margins. And once we get to a point where we're able to kind of get into the renewal phase of a number of these deals and rightsize the MGs, I would expect to see some more meaningful improvement in gross margins.

Barton Evans Crockett
B. Riley FBR, Inc., Research Division

Okay. And then if I could just have a quick follow-up. One of the things that Roger highlighted was the differential in the subscription introductory pricing for things like family and for college students, and that you need some negotiations, I guess, with labels to be able to be more competitive with Spotify on those kind of cheaper entry-level offers. I was just wondering if you could give us an update on where you are in being able to match them competitively on pricing for that segment and how optimistic you are about something kind of breaking loose over the course of the year.

Roger J. Lynch
Former President, CEO & Director

Yes, Barton, it's Roger. We -- yes, we have what we need to launch these new plans. So they're in development now, and I'd expect by sometime this summer, we'll have them in market.

Operator

Your next question comes from Mark Mahaney with RBC Capital Markets.

Dylan Haber
RBC Capital Markets, LLC, Research Division

This is Dylan Haber on for Mark. When you think about your paid subscriber business, how much of the growth now is coming from Pandora Plus versus Pandora Premium? And then where do you expect this mix to trend long term? And then lastly, what percent of your current subscriber base is on a free trial?

Naveen Chopra
Former Chief Financial Officer

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Dylan, it's Naveen. I think the first question, sort of how much of the growth is coming from Plus versus Premium, Plus subs are declining. In the case in Q3, as the case in Q4, they declined less in Q4 than in Q3. So the growth is really all about Premium. I think the more important takeaway there is that in the early days when we first launched Premium, that we expected a number of those subs were coming straight from Plus, meaning they were migrating to Premium, which is a balance of good things for us, but was not -- at some point, you're going to need to get subs from outside of that Plus base. And we're starting to see that now, and so fewer of the subs that are coming to Premium are coming out of Plus than then they were early in the launch. I don't have offhand for you the stat on the number of listeners currently in trial, but we can get back to you on that.

Roger J. Lynch
Former President, CEO & Director

But to be clear, if they listen, we report paid subscribers.

Naveen Chopra
Former Chief Financial Officer

Yes, sorry. The numbers we report do not include people in trial.

Operator

Your next question comes from Ron Josey with JMP Securities.

Ronald Victor Josey
JMP Securities LLC, Research Division

I wanted to ask more a bit more about just the ad revenue. And Naveen, I thought you -- I think I heard you say ad revenue declining in 1Q and working to improve throughout the year. And so when you think about how that improves, I'm wondering, given the strong -- the strength in the RPMs, is the improvement coming from ad listener growth, newer ad formats or just strength across the key verticals. And I assume the answer is yes to all 3, but would it be possible to grow on just like a stabilized user base with improved ad formats like Premium Access?

Naveen Chopra
Former Chief Financial Officer

Yes, look, I think that stabilizing the user base would have a dramatic impact on how we look at the ad revenue trajectory. And so that is very much our focus.

Operator

Your next question comes from Matthew Thornton with SunTrust.

Matthew Corey Thornton
SunTrust Robinson Humphrey, Inc., Research Division

A couple, if I could, and these are follow-ons to prior questions. The first one, on Premium Access, you talked about the benefits that you're seeing on retention engagements, upsell. I would assume this product could give you a higher -- some RPM lift, but also some LPM lift. So my question is how should we think about that contribution to the margin, meaning the RPM minus LPM margin? And then relatedly, when we think about LPM over the course of the year, Naveen, I would think that -- and correct me if I'm wrong, but CRB inflation mechanism, the publisher rates, those things probably step up to start the year as those Premium Access, and then the renewals and/or any benefit from renewals might come late in the year. Any color there, if that's fair, would be helpful.

Naveen Chopra
Former Chief Financial Officer

Yes. Matt, so the first part of the question on Premium Access and the kind of RPM, LPM dynamics there, this is what I was trying to reference earlier. And I think to put it simply, I think Premium Access gives us

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an opportunity to increase the margin on ad-supported listening because we put a very high-value video ad in front of the content, and that gives us the ability to absorb higher LPMs with better margins than I think we would see in more traditional ad-supported mode. With respect to LPMs, during the rest of the year, the factors that you cited I think are all things that are part of our expectations over the course of the year. I think you'll see it bump around similar levels to where we are now. It could go up a little bit. But as you said, I think the longer term kind of steady state for LPMs will be more a function of where we end up on the renewals, which we'll start to see at the end of this year.

Operator

Your next question comes from Ben Swinburne with Morgan Stanley.

Benjamin Daniel Swinburne
Morgan Stanley, Research Division

Roger, can you just talk a little bit broadly about how much progress you've made and what your outlook is for improving or reducing friction to buy advertising on Pandora? You talked last quarter a lot about you're not where the company needs to be in terms of generating ROI reports and making it easy to put money to work. I know you haven't been there that long, but are you seeing signs of positive movement? And do you think by the end of '18, you'll be in a place that will be materially better on that front than you are today? Any color there would be helpful since, obviously, it's sort of critical to get the top line going where you want it to go.

Roger J. Lynch
Former President, CEO & Director

Yes, sure, Ben. I think you hit it on the head. This is one of the things that we need to do really across our business. But particularly, with our advertising customers, is just making it easier to transact with us and to transact in ways that our customers want to transact. And the way we reduce friction on ad buys is one, number one, is by introducing programmatic, and which we -- which I talked about earlier and I think we're going to see continued growth there. I think that's going to be a very strategic area for us, in particular, audio programmatic. But also, for our direct sell business, improving the automation in the systems that we have there. So that's not something that happens overnight because there's investments we have to make. And as I mentioned on our Q3 call, we're looking at everything from building it ourselves to maybe even acquisitions that could help accelerate our efforts across the board. So whichever path we end up on, on that, we would expect to see some benefits from those investments over the next year. And there's a bunch of different areas that are affected by the types of investments we're talking about. But overall, putting it in the bucket of reducing friction, I think, is the right way to think about it.

Benjamin Daniel Swinburne
Morgan Stanley, Research Division

How about self-serve in the local side? Is that something you guys are focused on in the next year or so?

Roger J. Lynch
Former President, CEO & Director

Yes, yes. So again, self-serve is an area that opens up new revenue opportunities for us. So smaller advertisers today, it's not economical for us to really work with them because the manual process of our order flow just makes it uneconomical. So self-serve tools are going to enable us to tap into a whole new class of advertisers that, frankly, Facebook and Google have been very effective at doing with their businesses, and we just need to create similar tools that will enable us to expose those capabilities to smaller advertisers. So that's also in the works.

Benjamin Daniel Swinburne
Morgan Stanley, Research Division

Great. And then just, Naveen, I don't know if I got this right, but it looked like your fourth quarter subscription LPUs were up quite a bit in Q3. I don't know if there was something one-off in there. I know

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you mentioned the mix to Premium, but it was up a lot from the third quarter, the fourth quarter. I was just curious, is there any other color you can share on what drove that in the fourth quarter?

Naveen Chopra
Former Chief Financial Officer

That should be the main driver, would just be the mix of Plus and Premium. There's nothing else that should be unique. Well, actually, sorry, the recognition of MG expenses would impact that number as well.

Benjamin Daniel Swinburne
Morgan Stanley, Research Division

Okay. So is that number -- is the margin we see in Q4 sort of representative of how we should be thinking about subscription economics in '18? Or do you think this is -- is there some volatility in the quarters that we should be aware of?

Naveen Chopra
Former Chief Financial Officer

Yes, well, as I mentioned earlier, I do think once we get beyond the current deals where we have MG exposure, there is material opportunity to improve margins on, so it's LPM and LPUs. So what you're seeing right now would not necessarily be -- I should say, the impact of MGs that you see right now would not be something I think of as a long-term steady state.

Operator

The next question is from Doug Anmuth with JPMorgan.

Ashwin Kesireddy
JP Morgan Chase & Co, Research Division

This is Ashwin on behalf of Doug. First question is for Naveen. Is there any way you can quantify the year-end ad activity impact on revenue? And any comments on profit contribution so that we can make fair comparisons heading into Q1 will be helpful. And one for Roger. On the product side, you talked about expanding partnership with Comcast and obviously, the new redesigned app on the X1. But I was wondering what's the likelihood that billing for your app can be integrated into something like an X1 subscription. Are there any partnerships you're working on maybe on the fixed or the mobile side to launch kind of comparable trends? And finally, if you could provide and make any comments on the latest CRB ruling and its potential impact, that will be great.

Roger J. Lynch
Former President, CEO & Director

Say, why don't I take your second question, and I'll have Naveen take the first and third. On the product side, I'm a big believer in building a business with partnerships. It's a big part of how we built Sling TV. Almost half of the subscribers we added there were through partnerships. And my approach has always been, with device partners, to think of them not only as devices that play back your content, but as distribution partners who can help market your service. And I think there's a lot of opportunity for us to do that at Pandora too, and that includes integrated billing like you talked about. It's something we also did at Sling TV, and it was quite effective. So I view all of those as opportunities for us, and there are some capabilities that we need to build internally so that we can do partnerships like the ones you described. And that's a big focus of what we're doing in 2018. So I think more to come on that front.

Naveen Chopra
Former Chief Financial Officer

And I'll take the question on 115, and then we may need you to repeat the first one. But I guess, our comments on the 115 ruling, first of all, for those of you who are not familiar with this, this is the ruling on what we paid for mechanical royalties to publishers. This primarily affects the subscription part of our business, so the impact for us is a little different than a number of other streaming services that are much

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heavily -- more heavily oriented toward subscription than we are, that's obviously a meaningful part of our business, but not the largest part of the business. So the rates that were determined by the CRB ruling were a higher rate than what we pay today. We expected there to be some increase. The fact that the increase escalates over time does create something that was a little bit of a surprise to us. There is a lot of discussion, I think, in the industry right now regarding how to handle those increases. We're aware of the fact that there was a pretty significant dissenting opinion from one of the judges in that ruling, and there are a number of players in the industry who are evaluating the prospect of appealing that. And we'll continue to monitor that and see how it might impact us. And I'd need you to repeat the first question. We didn't catch that one.

Ashwin Kesireddy
JP Morgan Chase & Co, Research Division

Yes. I was wondering if you could talk about the -- or quantify the impact of, I think you mentioned like elevated activity towards the -- towards late Q4 than what you typically see on the ad business, an exponential contribution to better revenue here than what you are expecting for Q4.

Naveen Chopra
Former Chief Financial Officer

Yes, I mean, I don't have a lot to quantify there per se. I mean, a quick bit of color we can add is, obviously, we see the ad pipeline building toward the end of the prior quarter and then the beginning of the in-quarter period. Particularly in Q4, a lot of those bookings come in early. This quarter, as I mentioned in the prepared remarks, they came in later than expected. We don't really know whether that's a trend to expect going forward, but it was certainly the way things played out in Q4. We -- the areas that ended up showing some strength later in the quarter, I think, as Roger mentioned, retail came in much stronger than we expected. We also saw some strength on the local side, which were 2 areas that we had -- that we did not expect to be that strong in Q4. So that was a nice outcome.

Operator

Your next question is from Jim Goss with Barrington Research.

James Charles Goss
Barrington Research Associates, Inc., Research Division

I would like to go a little bit more on the royalty issue. You have -- aside from the levels you've just been charged with paying, you do have some higher royalties associated with subscription services, I assume some blended royalties with your Premium Access. And with the podcast idea, I would imagine there would be sort of a royalty-free application of your services. If you looked at content acquisition cost as a trend, do you have any thoughts you might add to how that cost element to your business should trend over the next year or so?

Naveen Chopra
Former Chief Financial Officer

Yes. Look, I think the simple answer to that is we, at the end of the day, we look at total content cost as a percent of revenue. And we have between reworking some of the existing deals, looking at new forms of content, we think there's an opportunity to reduce cost as a percentage of revenue in a way that makes a meaningful difference to gross margins and ultimately what we can drive in terms of operating profit. And that's, I think, one of the big opportunities in this business.

James Charles Goss
Barrington Research Associates, Inc., Research Division

Okay. And separately, I was wondering which of your services are available on smart speakers. Does it depend on what you're paying for? And what is the usage shown to be so far?

Roger J. Lynch
Former President, CEO & Director

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Yes, we are still in the process of rolling out our Premium service across our whole device ecosystem. We have made some progress in Q4 that we identified with Sonos and Comcast and Amazon Fire. There are still a few devices like Amazon Echo that didn't have our Premium service that will be coming later this year. But our goal this year is to have all of the major devices that we're on to have all 3 tiers of our service, and I think we've made quite good progress towards that.

Operator

Our last question is from John Egbert with Stifel.

John Peter Egbert
Stifel, Nicolaus & Company, Incorporated, Research Division

I had one follow-up on the Section 115 ruling. I'm interested in how the new percentage of total content cost methodology might come into play in the future because it appears that tier could be more onerous by several percentage points, depending on what you assume for how much you're paying royalties on the subscription business. Your current publisher deals for on-demand products only reference the percentage of revenue rate from the CRB ruling, which would like shield you from the total content cost formula. And also, like how long do your direct publisher deals last on average because it just seems like whenever those lapse, publishers have a lot more leverage on the next time they come to the table?

Naveen Chopra
Former Chief Financial Officer

Yes, this is Naveen. The percentage of content cost component in the new ruling is actually -- it's not entirely new. There is an element of that, that we have in the existing contract as well. In terms of specific time lines, we don't disclose the exact renewal dates on any of our deals. Obviously, as those do come up, there are things that both we and the publishers will be looking to update and try to optimize. And I wouldn't focus on any one thing relative to what are ultimately are pretty complex deals.

John Peter Egbert
Stifel, Nicolaus & Company, Incorporated, Research Division

Well, if I could follow up there, if I look at the deals as we see them from the CRB, it says a minimum 22% of total content costs for the Section 115 royalties. If you assume the 70% of revenue in subscription is going towards content cost, which is kind of in the range of where the previous team had guided that you've tracked above, that brings you to about 15% of revenue going towards publishing cost, not 11.4%. And so I just -- I'm wondering if you're kind of operating under a below-market rate now. And I guess, when we're modeling more than the next 2 years, how should we think about that?

Naveen Chopra
Former Chief Financial Officer

I don't think we're operating on a below-market rate today. And keep in mind that the percent of total content cost refers to -- it's against the sound recording cost, not total royalties. So I think your math is probably a little off on that basis.

Operator

And that was our last question. At this time, I will now turn the call back over to the presenters.

Roger J. Lynch
Former President, CEO & Director

Okay, thanks very much, and thanks, everyone. On our Q3 call, we identified a number of challenges around audience and monetization. And during the quarter, we made significant progress towards addressing many of those challenges. And while there's a lot more work to do and we're not going to bend the curve overnight, I'm confident we're on the right track. And between the large opportunity from the growing digital audio market that I talked about earlier and strong execution, I really believe we will reinvigorate Pandora. So stay tuned. There's a lot more to come. And thanks again, everyone.

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Operator
That concludes Pandora's Fourth Quarter 2017 Financial Results Conference Call. We will return you to the Black History Month station.

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Market Intelligence

Pandora Media, Inc.

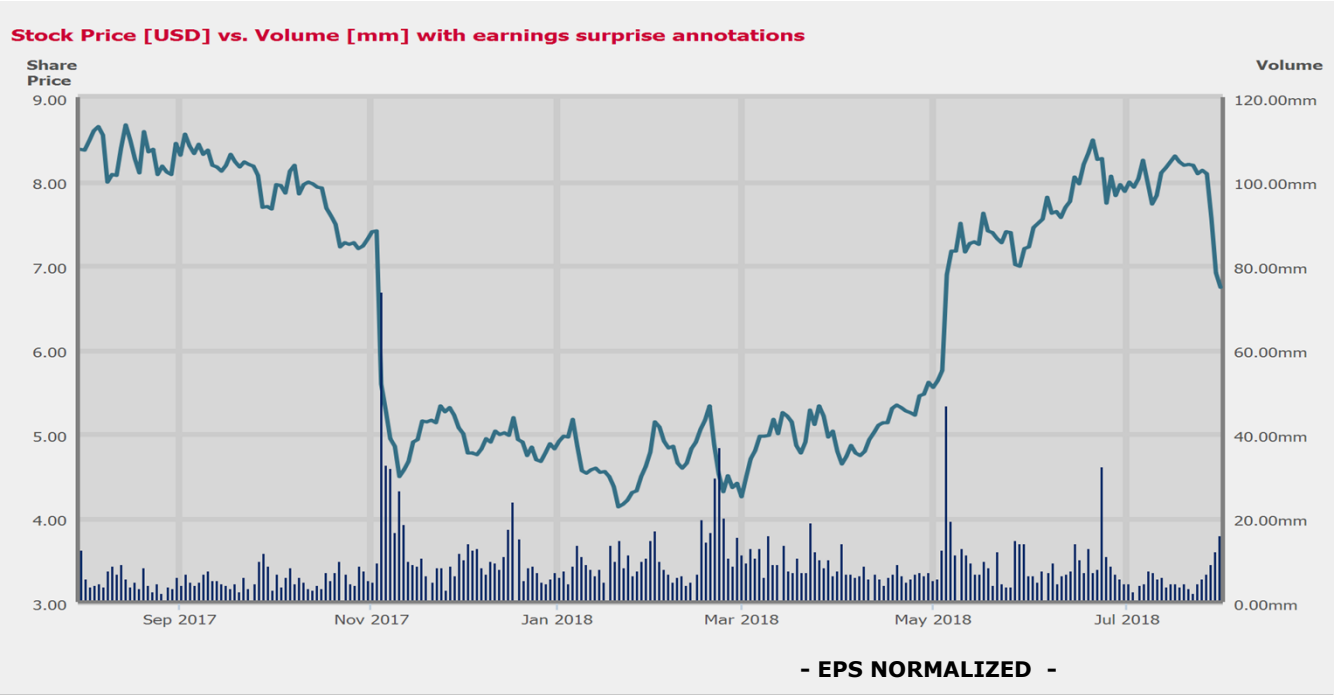
FQ2 2018 Earnings Call Transcripts

Tuesday, July 31, 2018 9:00 PM GMT

S&P Global Market Intelligence Estimates

	-FQ2 2018-			-FQ3 2018-	-FY 2018-	-FY 2019-
	CONSENSUS	ACTUAL	SURPRISE	CONSENSUS	CONSENSUS	CONSENSUS
EPS Normalized	(0.17)	(0.15)	NM	(0.07)	(0.50)	(0.27)
Revenue (mm)	372.52	384.79	▲3.29	394.15	1520.74	1690.30

Currency: USD
Consensus as of Jul-31-2018 11:35 AM GMT



- EPS NORMALIZED -

	CONSENSUS	ACTUAL	SURPRISE
FQ3 2017	(0.08)	(0.06)	NM
FQ4 2017	(0.07)	(0.21)	NM
FQ1 2018	(0.36)	(0.27)	NM
FQ2 2018	(0.17)	(0.15)	NM

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Presentation

Operator

Welcome to Pandora's Second Quarter 2018 Financial Results Conference Call. Opening today's call is Derrick Nueman, Vice President, Pandora.

Sir, you may begin your conference.

Derrick L. Nueman
Vice President of Investor Relations

Good afternoon. Second Quarter 2018 Earnings Call. Before we begin, let me remind everyone that today's discussion will contain forward-looking statements based on our current assumptions, expectations and beliefs, including projected financial results or operating metrics, business strategies, anticipated future products or services, anticipated market demand or opportunities, the benefit of Pandora from the acquisition of AdsWizz and other forward-looking topics. For a discussion of specific risk factors that could cause our actual results to differ materially from today's discussion, please refer to the documents we filed with the Securities and Exchange Commission.

Also, during this call, we will discuss non-GAAP measures of our performance. GAAP financial reconciliations and supplemental financial information are provided in the press release filed today with the SEC, and detailed financials are available on our Investor Relations site.

Finally, we've excluded Ticketfly, Australia and New Zealand from year-over-year comparisons for revenue, operating expenses, actives and hours as we no longer operate those businesses. You can find year-over-year comparisons that include these businesses in the press release we issued earlier today.

Today's call is available via webcast, and a replay will be available for 2 weeks. We will also post the full text of today's prepared remarks once they have concluded. You can find the information I have just described at investor.pandora.com.

On the call today joining me are Roger Lynch, Pandora's President and CEO; and Naveen Chopra, Pandora's Chief Financial Officer.

With that, let me turn over the call to Roger.

Roger J. Lynch
Former President, CEO & Director

Thanks, Derrick, and thanks, everyone, for joining. Let's get right to it. We continue to make progress in our efforts to reinvigorate Pandora and our results this quarter reflect it. Revenue came in better than we expected. Year-over-year ad hours trends improved for the third straight quarter. Subscription revenue grew 67%. We signed multiple new partnerships. We closed the AdsWizz acquisition. And with the cost control measures we took in Q1, we meaningfully improved OpEx as a percentage of revenue. Our listener and engagement growth initiatives remain priority #1. Ad hour trends are moving in the right direction. Subscriber additions more than doubled versus the first quarter. And MAU trends are roughly in line with the improvements we saw last quarter. We are bullish about the potential for these metrics to continue improving through a combination of expanded partnerships, marketing optimization and key product enhancements.

From day 1, I have stressed the importance of partnerships. I'm a big believer in the ability of partnerships to create audience growth. In my experience, you get your best customers through partnerships at the lowest cost of acquisition.

In this quarter, we made a lot of progress. We announced a deal with AT&T through which Pandora Premium is included as a bundling option for AT&T's unlimited data plan. Eligible AT&T customers receive Pandora Premium at no incremental cost. In addition to being a great value for consumers and expanding

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distribution for Pandora, we expect the deal with AT&T to yield subscribers with a higher lifetime value because the bundles have both lower churn and lower acquisition cost.

We also announced a co-marketing deal with Cheddar and partnered with T-Mobile to provide special offers to T-mobile consumers. This is another way to drive subscription trials at attractive costs.

Finally, and importantly, we announced a partnership with Snap that allows their users to share music with anyone they want. I want to point out that this kind of seamless sharing simply would not be possible without Pandora's ad-supported offering, especially our Premium Access feature. This is a great fit for us in terms of audience. We think the integration with Snap will increase engagement with younger users and drive growth for our subscription business. And it is also a perfect example of the kind of unique partnerships and consumer functionality enabled by our hybrid business model.

We'll continue to establish partnerships with great companies, taking advantage of our industry-leading scale and the flexibility of our 3-tiered offering. This will expose the Pandora brand to a larger and larger universe of consumers. And of course, we're carrying these partnership efforts with a focus on optimizing our own direct marketing. As we talked about last quarter, we think there is significant opportunity to grow the size and engagement of our audience with increased spend and performance marketing and enhanced CRM capabilities.

Last quarter, I talked about recapturing lapsed users, onboarding new ones and reducing churn. We're making initial progress in these efforts. Our focus is on better utilizing data, more effectively personalizing CRM, improving our marketing technology capabilities, optimizing our marketing channels and increasing conversions. Our goal is to continuously improve the efficiency of our marketing efforts and in doing so, to fundamentally shift the marginal cost curve of adding new users lower, driving the curve down to the right. As our marketing organization delivers on these fronts and we realize tangible ROI improvements, you can expect us to be opportunistic in spending more on marketing to accelerate audience growth.

On the product front, we continued to deliver improvements and bring new features to each tier of our offering. This quarter, our subscription business showed strong results. As of today, we have over 6 million paying subscribers. We also launched Family Plans for our subscription service in June, adding a key feature that will steer a greater share of new subscribers to direct high-margin billing plans. We still have a lot planned for our subscription products, including a student plan, easier sign-up flows and expanded device compatibility, but we're excited about the growth we're seeing now.

Premium Access continues to show traction. It's our fastest-growing feature and a critical component of our marketing and partnership efforts. We're seeing a higher propensity for Premium Access users to upgrade to our subscription product, and it is leading to increased ad hours. Premium Access is also improving engagement with younger users, with more than double the usage by listeners under age 25 compared to usage from eligible listeners on Pandora overall. We'll be expanding the feature to the desktop later this year.

I'm particularly excited about 2 other items on our product road map: voice control and podcast. As the market shifts to voice commands in multiple environments, in homes and cars, our in-app voice controls will make Pandora much easier to use. Our podcast genome is also tracking toward launch later this year and will be a significant step-forward in discovery and monetization for nonmusic content. We believe the combination of these 2 features will make Pandora even more compelling within the car.

Voice controls will be a significant step-forward, making Pandora as easy to use as radio, and our podcast genome will help us address the 28% of nonmusic listening on radio.

This has also been an important quarter for ad monetization. We've now closed the AdsWizz transaction, and we're encouraged by the enthusiasm we've seen from other publishers who see the benefits of combining their digital audio inventory with Pandora to leverage our massive scale in the U.S. digital audio market and AdsWizz' programmatic audio ad platform.

Additionally, just this morning, we announced the general availability launch of Audio Programmatic with several major brands involved. This is our first product integration with AdsWizz, which helps us access new demand, optimize pricing and increase efficiency of our ad operations.

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Our approach here, like all our strategic initiatives, will be deliberate, with a gradual increase in the amount of Pandora inventory sold through Audio Programmatic. Over time, we expect this to fundamentally increase demand for digital audio, benefiting both Pandora and the publishers that work with us. We're also rolling out 3 new audio ad capabilities: dynamic audio; sequential audio; and shorter-length audio, so that advertisers can deliver hyperpersonalized campaigns with automated variation that are creative at scale.

Between partnerships, marketing, products and monetization, our tactical efforts are proving to be significant and influential and are showing results. More importantly, these initiatives all operate in support of our broader strategic goals and market opportunity.

Since I first joined Pandora, I've talked about the large and strategic opportunity in digital audio. We're still in the early innings, and the market is growing rapidly. There's a significant opportunity for this market to grow even faster by taking share from the approximately $15 billion U.S. terrestrial radio market. I believe that Pandora has all the elements necessary to compete and win in digital audio. Our flexibility in having both subscription and ad-supported offerings means we have the most and best options when it comes to engaging listeners, working with partners and as a provider of all audio content, not just music.

Now with AdsWizz, our platform approach to advertising gives us global reach into the digital audio ecosystem anywhere in the world, and we have the best monetization capabilities and tools to leverage that reach. We have all of this, along with the single-largest listener base of any streaming service in the U.S., a base that we intend to grow.

We've done a lot of hard work at Pandora with more to do, but everything we're doing is in service of our ultimate goal: cementing Pandora as a leading player in digital audio.

With that, I'll turn things over to Naveen.

Naveen Chopra
Former Chief Financial Officer

Thanks, Roger. As you heard in Roger's comments, we had a strong Q2. We exceeded our revenue expectations, announced several key partnerships, improved ad hour trends, accelerated subscriber additions and closed the AdsWizz acquisition.

Before commenting on the specific results, let me remind you that we're excluding Ticketfly, Australia and New Zealand from year-over-year comparisons for revenue, operating expenses, actives and hours as we no longer operate those businesses. You can find year-over-year comparisons that include these businesses in the press release issued earlier today.

Q2 total revenue was $384.8 million, growing approximately 12% year-over-year. This exceeded the top end of our revenue guidance by almost $10 million due to better-than-expected advertising and subscription revenue. The upside in Q2 advertising revenue was the result of 3 factors. First, like Q1, we saw a higher level of in-quarter bookings and an uptick in revenue from nonguaranteed channels like Sponsored Listening and cost-per-view video advertisements. These are the advertising formats used with features like Premium Access. Second, ad hours came in stronger than we anticipated. In fact, ad hours declined 7% year-over-year in Q2, which is much improved relative to the 11% year-over-year decline last quarter and the 16% decline in Q3 of 2017. Lastly, a small amount of the upside, around $2 million, came from a portion of AdsWizz revenue being recognized on a gross basis versus the previously expected net basis. RPMs increased by 4% year-over-year in Q2 despite lower ad loads compared to the year-ago period. Going forward, RPMs will benefit from continued improvements in targeting, sell-through and programmatic, but better ad hour trends and CE usage could moderate growth rates.

Subscription revenue growth accelerated to 67% year-over-year, reflecting growth in our Premium subscriber base and the associated higher ARPUs. We added approximately 351,000 net subscribers, more than double last quarter, bringing cumulative paid subscribers to approximately $6 million. The stronger net adds stem from a combination of heavier performance marketing, better utilization of CRM and other conversion tools and a stabilization in Plus users.

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ARPU increased to $6.52 due to strong growth in Premium subscribers, which have a higher monthly ARPU.

2 housekeeping items to be aware of related to our subscription business. First, our Family Plan was launched late in the quarter and did not have much of an impact on Q2 results. We do expect Family Plans to be an important growth contributor, and we will be reporting Family Plan subscribers in a similar fashion as our competitors, counting each listener account in a family plan as a distinct subscriber. This treatment could impact our rate of ARPU growth. Second, in Q3, we will be changing our policy for handling grace periods, which slightly benefits ARPU but will be a headwind to net subscriber additions in the quarter. As a reminder, we do not count trials in our subscriber or MAU numbers.

Moving to the audience part of the equation. Total monthly active users were 71.4 million in Q2, showing a year-over-year decline at approximately the same rate as the first quarter. Although we are still evolving our marketing efforts, in Q2, we were successful in accelerating subscriber growth and increasing engagement with our ad-supported product as evidenced by the improvement in ad hour trends we just referenced. We see these metrics as leading indicators that our marketing investments are having an impact, and we expect MAU improvement to follow as the combination of our marketing efforts, partnership agreements and product improvements gain traction.

Total content costs represented approximately 59% of revenue in the second quarter. As expected, this was a marked improvement relative to Q1 as content costs as a percentage of revenue is typically highest in Q1 due to the seasonality of our advertising business.

Q2 ad LPM was slightly higher than Q1 at $36.87 but was in line with our expectations. As a reminder, we assume ad LPMs will continue to fluctuate during the year due to the impact of minimum guarantee accounting and ongoing changes to our arrangements with content owners. Q2 licensing costs per subscriber was $4.78, up from $3.11 last year. These increases are largely driven by the mix shift from Pandora Plus to Premium.

Non-GAAP gross margin was 33% compared to 37% in the year-ago quarter. The year-over-year decrease in margin was caused by minimum guarantees for content rights. Like last quarter, absent the impact of MGs, gross margins would have been higher by several hundred basis points. We expect gross margins to increase in the future with improvements in audience engagement, ad monetization and rightsizing of minimum guarantees.

Second quarter non-GAAP operating expenses, excluding subscription commissions, were up about $9.9 million sequentially. This was driven by expected increases in product development and marketing spend, some of which was related to the addition of AdsWizz. Subscription commissions were up about $9 million year-over-year due to growth from our Premium product.

Our focus on operating efficiency continues to bear fruit as evidenced by the fact that operating expenses, excluding subscription commissions and external marketing, were approximately 33% of revenue in Q2 of 2018 versus 37% of revenue in the year-ago quarter.

Adjusted EBITDA loss in the second quarter was $34.6 million, near the high end of our guidance range despite a $7.5 million increase in sequential marketing spend.

Second quarter 2018 GAAP net loss per share was $0.38. There were 2 unforecasted items specific to the quarter worth highlighting. We took a noncash charge of $14.6 million related to our convertible debt exchange and a benefit of $7.2 million in tax expense for the release of a valuation allowance associated with the AdsWizz acquisition. The combination of these unforecasted items, along with restructuring and AdsWizz transaction costs, reduced overall EPS by $0.04.

Our weighted average common shares outstanding was approximately 260 million shares, and the sequential increase was driven primarily by the 9.6 million shares we issued in relation to our AdsWizz acquisition.

Cash and investments ended the second quarter at $421 million. As expected, this was down from last quarter due to the closing of the AdsWizz transaction and label prepayments. Our operating cash flow can

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fluctuate on a quarterly basis due to the timing of label payments and other working capital. We expect cash to decrease in Q3 due to label prepayments.

Now let's move to guidance. As we've highlighted on past calls, our strategic growth initiatives will build over the course of 2018 and beyond. Although we've continued to make notable progress, we are still in the early stages of what we view as a long game.

Now in terms of specific numbers for Q3, we expect Q3 total revenue to be between $390 million to $405 million, the midpoint of which implies 10% growth versus the year-ago period. Our revenue guidance reflects the fact that we project continued momentum in our subscription business, albeit at a moderated growth rate as we are no longer growing off a small revenue base. Additionally, we expect an improvement in the year-over-year trend for advertising revenue, aided in part by the inclusion of AdsWizz-related revenue.

We expect Q3 adjusted EBITDA to be in the range of a loss of $10 million to a loss of $25 million. Our adjusted EBITDA guidance includes a significant increase in marketing investment. In fact, we currently plan to spend at least $10 million more on marketing compared to the year-ago quarter. Additionally, the way in which we spend will be very different, with almost all of our media budget allocated to highly targeted, performance-based digital advertising. We will continue to be opportunistic with marketing spend, especially if we can drive results similar to this past quarter, where we saw strong subscriber additions and improvement in ad hour trends. Please note that adjusted EBITDA differs from GAAP net loss in that it excludes forecasted stock-based compensation expense of approximately $29 million, depreciation and amortization expense of approximately $17 million, other expense of approximately $5 million and provision for income taxes of approximately $400,000 and assumes minimal cash taxes given our net loss position.

Basic shares outstanding for the third quarter of 2018 are expected to be approximately $269 million.

I'll wrap up by saying that we're encouraged by the progress we've made this quarter. Roger said this, and I'll say it too, there's still a lot of work to do, but we're on the right path with solid revenue growth, improving audience metrics and improving adjusted EBITDA.
With that, I'll turn the call to the operator, who will open the line for your questions. Operator?

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Question and Answer

Operator

[Operator Instructions] Your first question comes from Justin Patterson from Raymond James.

Justin Tyler Patterson
Raymond James & Associates, Inc., Research Division

So on Premium Access, it sounds like you're getting some good engagement there and driving some conversions towards subscriptions. Could you just update again how many of your -- how much of your listener base have used the product? I think it was around 13 million last quarter. And then talk a little bit about just the underlying engagement trends. How big of a factor was that for the ad hour improvement this quarter? And then in turn, talk about conversion towards subscription there. And then I've got a quick follow-up.

Roger J. Lynch
Former President, CEO & Director

Sure. Hi, Justin, it's Roger. We -- as of the Q1, we announced we had 13 million. Now at the end of July, we've had about 22 million who have used Premium Access. And the results are impressive. It really -- we see those who use it have increased daily engagement compared to their engagement before they used it. We see a much higher propensity for them to upgrade to our subscription product and in particular, a skew towards younger, so under-25 users that use it about 2.5x as often as our other users use it. So it really is something that we're seeing good momentum with, and we will also be launching it on desktop in the fall. But right now, it's just available on mobile. It's a key part of our marketing effort so...

Justin Tyler Patterson
Raymond James & Associates, Inc., Research Division

Got it. And then a quick follow-up on programmatic. Congratulations on the GA and the new ad product announcements today. Just kind of thinking conceptually, should we be doing programmatic as a tool to grow budget at existing advertisers? Or are you seeing signs that you can bring in new advertisers to Pandora with these products? And then from a pricing standpoint, a common question we get from investors is whether the shift to programmatic should be a net-neutral to pricing, deflationary or inflationary. So any color you have on that would be helpful.

Roger J. Lynch
Former President, CEO & Director

Sure. If you think about a year ago, or just shortly after I joined, one of the headwinds we faced at Pandora was we saw some of our big advertisers and holding companies moving budget -- parts of their budget to programmatic. And so the pie that we were able to play in was shrinking somewhat because we were -- with those advertisers because we didn't have a programmatic offering. So first and foremost, it enables us to transact with our advertising customers in the way that they want to transact. And increasingly, we see advertisers who want to transact programmatically. So I'd say it enables us to, in the case of some advertisers, recapture portions of the budget that we had lost access to by not having programmatic. And I'm sure there may be other advertisers who only want to transact programmatically that we'll be able to attract now that we have it launched. In terms of pricing, I know that some of the other Internet companies with programmatic have seen deflationary impacts of that. We're not expecting that in audio for a number of reasons. First of all, largely, we are the digital audio advertising market. We have a significant market share in that. And so we'll be judicious in how much inventory we make available to make sure it doesn't have a deflationary impact. And in fact, we think that it will help us in certain areas, like maybe even some of the seasonalities to move out a little seasonality. And ultimately, if we can help it -- if we can use it to replace where we might otherwise sell in the remnant market, then we'll be replacing stronger CPM ads with

[Audio Gap]

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CPM ads versus the remnant ads we might have sold. So our expectations really are probably neutral to maybe even positive, but certainly, not deflationary.

Operator

Your next question comes from Mark Kelley from Nomura.

Mark Patrick Kelley
Nomura Securities Co. Ltd., Research Division

Can we just talk about ads just a little bit more? I know you called out that $2 million in gross revenue in the quarter. Can you just help us walk through where that's coming from? Is that $2 million in ad spend on some of your competitors? And then also, what are the economics that you capture, and what do you have to kick back to the publisher? And then second, should we expect any publishers to leave the platform for competitive reasons or otherwise?

Naveen Chopra
Former Chief Financial Officer

Hey, Mark, it's Naveen. Let me take the first part of the question with respect to how the revenue flows from AdsWizz. As you'll remember, big picture, 2 big benefits from AdsWizz. By far, the largest one is the benefit that we think it creates for the core O&O ad business. And so that's not going to show up as AdsWizz revenue per se, it's really about helping us drive sales of more of our own inventory and third-party inventory by aggregated demand. The other part of the business is the operation of the programmatic ecosystem that includes supply-side platforms, demand-side platforms, ad serving and also a marketplace. That stuff is all considered AdsWizz revenue, and it's really just the last component of that where the revenue treatment, which we had previously expected, would be -- on a net basis is done on a gross basis. And as I said, it's a relatively modest impact of about $2 million in the quarter.

Roger J. Lynch
Former President, CEO & Director

Okay, it's Roger. Let me answer, Mark, the second part of your question about publishers. When we acquired AdsWizz, our assumption was we wanted to be conservative in our estimates for their business and the growth of their business. So our assumption was that they would lose some publishers, especially ones that might view us as competitive. And in fact, the results, so far, have been much more positive than our expectations. We don't expect to keep every publisher, and in fact, there has been at least one that has left, but we've kept really the vast, vast majority. And we think that, that will likely continue because really, especially with our supply coming into AdsWizz programmatic, we now represent, through AdsWizz, the vast majority of all audio inventory that's available programmatically, not just in the U.S. but globally. And so it does create somewhat of a network effect, where buyers want to be where the suppliers of the inventory are, and we have the most supply by far through AdsWizz, and vice versa, the suppliers want to be where the buyers are. So we feel quite positive about the results so far in terms of other publishers. And I think the other publishers are realizing the significant benefit that can accrue to their business by having Pandora making inventory available and just creating more awareness and demand for programmatic audio.

Operator

Your next question comes from Ben Swinburne from Morgan Stanley.

Benjamin Daniel Swinburne
Morgan Stanley, Research Division

Roger, can you talk a little bit more about the digital audio ecosystem from an advertising perspective? And what I'm curious about is when you think about what Google is doing with DoubleClick and audio, Spotify, obviously, has a lot of inventory, how important is it for all these platforms to sort of come together in some sort of organized way to get the advertiser community excited about putting more money to work? And sort of how far away are we from that point? And do you think that this is something that is going to resonate with radio advertisers, with traditional display advertisers? How do you see the

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sort of TAM developing as this is built out? And then unrelated, I'd love to hear your thoughts on, you mentioned the podcast genome on track for later this year. What's a reasonable expectation for us to be thinking about the impact of that on the business, either in terms of engagement or margins, as we look into 2019? I'm just curious sort of how excited we should be or shouldn't be about the podcast opportunity for you guys over the next kind of 18 months.

Roger J. Lynch
Former President, CEO & Director

Sure. Sure, Ben. We're quite bullish about the digital audio advertising ecosystem that is developing, and there's a bunch of reasons for it. One is just the growth in consumption of audio. I mean, music consumption is growing very, very rapidly. Digital audio is growing rapidly. Things like podcasts are helping with that. Obviously, streaming is helping with that. Google recently announced that they would make, on the demand side, their platforms available for audio. And one thing I'd like to make clear about that, this is a positive for us. AdsWizz, from an AdsWizz perspective, AdsWizz does have a demand-side platform, but it's far more important for us for more demand to be generated that will benefit both AdsWizz because AdsWizz has the full stack from ad serving to the supply side, and obviously, for our owned-and-operated Pandora business, creating more demand for digital audio is a benefit to us. And AdsWizz already integrates with DSPs like MediaMath and The Trade Desk, and I believe they're working to integrate with Google also. And so we view that as a positive for our business directly into the AdsWizz business. Similarly, for Spotify, as they continue to develop their digital audio capabilities around advertising, it creates more awareness for what is still a relatively small market. I think, last year, digital audio was about $1.5 million in revenue, but it's growing much faster than other forms of digital advertising. So more awareness with more advertisers should benefit the largest digital audio advertising business globally, which is Pandora, and the largest digital audio programmatic business globally, which is AdsWizz. So we're quite positive about it. Advertisers are excited about it because they're used to transacting programmatically, certainly, with display and increasingly with video. And now they have a large publisher that they can transact with programmatically for audio. On podcast, the -- as I mentioned, we expect to launch this towards the end of this year, and our focus on this is not to launch a me-too product with podcast. It is really to do for podcast what we did for music, which is to enable discovery at a hyperpersonalized level and to enable monetization through advertising at a very high rate. And those are 2 core strengths of Pandora, discovery and monetization. They actually happen to be the 2 core weaknesses of podcasts today. Most discovery is done by looking at a list on -- through iOS, and there is nothing personalized about that. And monetization is still relatively early innings. So we think there's a lot we can bring, especially with our scale and the capabilities I just talked about to podcast. We also think it will be very instrumental in us going after the terrestrial radio market. And again, that's a $15 billion market in the U.S. And about 28% of listening on radio is nonmusic. So podcasts enable us to start to go into that nonmusic segment but using all the personalization capabilities that we have as well as the fact that we think that the margins on nonmusic content will be better for us than on music. So obviously, we don't expect any impact this year since it won't launch until the end of the year. And next year will be a ramp-up year for us. So we would expect throughout next year to start to see some results from that. But obviously, too early to tell how quickly that listening will ramp.

Operator

Your next question comes from Douglas Anmuth from JPMorgan.

Ashwin Kesireddy
JP Morgan Chase & Co, Research Division

This is Ashwin on behalf of Doug. I have a question on RPM. I think you mentioned that increased CE usage could be a headwind to RPM in the second half. I'm just wondering if you could give us more color on how to think about it, in fact, and how much of a headwind can it be.

Naveen Chopra
Former Chief Financial Officer

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Yes, hi, Ashwin. It's Naveen. The issue on RPMs for CE and auto devices is that those devices are, frankly, just less mature from an advertising perspective than mobile or web. In fact, they look a lot like what mobile and web did 5 or 6 years ago, where there is limited tracking, limited measurement, limited interactivity. And therefore, there is a disparity between the amount of revenue we can generate on those platforms for any given amount of listening versus mobile. The good news is we see a lot of upside there going forward, both because we are already starting to see increased advertiser interest in those platforms. And so those are, for instance, one of the platforms where we saw some strong improvements in revenue in Q2. And we also believe that, over time, just like mobile evolved to become a very compelling ad platform, we think CE will, over time, as well. So we actually like the fact that there's a lot of hours and engagement growth on those devices. It will take a little time to catch up on the monetization side.

Ashwin Kesireddy
JP Morgan Chase & Co, Research Division

Great. Just one follow-up on users. I think, Roger, on the last call you mentioned that lapsed users were positive for the first time in 18 months. Can you give us more color directionally on how to treat it from vectors of users' progress? I'm talking about lapse to new users and churn.

Roger J. Lynch
Former President, CEO & Director

Sure. Yes, as I mentioned, last quarter, we continue to see year-over-year improvements in really all 3 of the categories. Churn has been -- continued to decline this quarter, as we mentioned, we saw last quarter also. We see continued year-over-year improvement in recapture of listeners. And we have increasingly more focus on new listeners, which we're seeing also improvements in that. So across all 3 of those, we're certainly seeing year-over-year improvements. And really, our strategy is to continue our focus on all 3 of those segments. And as we continue to improve each one of them, then we'll see it -- continued improvements in our overall results.

Operator

Your next question comes from Mark Mahaney from RBC Capital Markets.

Mark Stephen F. Mahaney
RBC Capital Markets, LLC, Research Division

2 questions, one on the label negotiations. I think you've been pretty consistent for a while that MGs are probably cramping margins by a couple of hundred bps. What's the length of time it will take you to capture that margin upside? And is it clear to you that you'll be able to move beyond MGs with this next round of negotiations? And then if I could also ask you to just talk about the adoption of the Family Plan. I know it's very early days for that, but when you think about what impact you would like to see from the adoption of Family Plan, what are you expecting? Better customer acquisition? Lower churn? A combination of both of those things? Like what should we be expecting? If the Family Plan adoption is successful, how should it show up?

Naveen Chopra
Former Chief Financial Officer

Mark, I'll take the first piece on the MGs and label negotiations. We do continue to believe that our margins would be better by several hundred basis points absent MGs. And our opportunity to capture that is really, as the deals come up for renewal, we don't talk about specific time lines, but I think it's safe to say that over the course of the next year or so, we will start to have that opportunity. And we're going to be very focused on making sure that to the extent there are any MGs, that they are ones that we believe are achievable.

Roger J. Lynch
Former President, CEO & Director

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Okay, Mark, I'll take the question on Family Plan. What we see from streaming music services in general is that an increasing percentage of new additions are coming from discounted plans like family plans and student plans, and family plans being a much, much bigger contributor than student plans. So this is something that, for Pandora, we didn't have family plans until we launched in May, so really an inhibitor in us going after the market as fully as we could. So what we would expect to see is to improve our activations. Now we've only made Family Plan available directly through our website. So it's not available through app stores. And I've said that one of our objectives is to increase the share of activations that we do directly as compared through app stores. So this will be one of the ways we do that, and those are higher-value customers for us should we sign up directly. And then we would expect, as others have seen, to have lower churn for Family Plan subscribers too.

Operator

Your next question comes from Jason Helfstein from Oppenheimer.

Jason Stuart Helfstein
Oppenheimer & Co. Inc., Research Division

So first question on self-service. How close are you to launching buying tools? And when you do, how do you think about adoption nationally versus locally? Second question, were there any onetime expenses you want to call out in G&A? And then lastly, could you talk about what international publishers that you use to fill the inventory on AdsWizz since Spotify left the platform?

Roger J. Lynch
Former President, CEO & Director

Okay. Self-service is one of the things that we see as an opportunity to grow our business because there's about $4 billion of ad revenue, audio ad revenue, that comes from small advertisers that are largely out of our reach today because of lack of self-service and how costly it is with our existing I/O process. So we think that the acquisition of AdsWizz, their capabilities they have in that area, and it's one of the areas of focus for us to be able to use some of the tools they have in that. We don't have an announced -- or launch date for that yet, but it is certainly an area of focus. I think it's going to primarily help us with smaller advertisers. Although the tools that we'll be using to create this, we think can also help us in our direct business by automating some of the things that our ad operations people do today. So really, a goal there is automate some of the workflows which then frees them up to do more high-value things, like ROI reporting, for our advertisers. So it's really that tool will be leveraged not just with smaller advertisers, but also internally. Let me take the last part of that -- your questions, and I'll let Naveen talk about the onetime expenses. So we haven't -- I'm not going to talk about any specific customers of AdsWizz, but they have hundreds of customers operating in 39 countries. And so overall, we've been quite pleased with the retention of customers that they have had since the acquisition, and it exceeded certainly what we modeled in our own internal models for the acquisition. So we're quite pleased with the state of where we are right now with them. Naveen, I'll let you take the onetime expense.

Naveen Chopra
Former Chief Financial Officer

Yes. It's a quick one. The -- most of the onetime stuff this quarter related to the transactions or the exchange we did on the convert, et cetera, are all adjusted out for our adjusted EBITDA purposes. So you can just look at the reconciliations on those and add some of the detail.

Operator

Your next question comes from Amy Yong from Macquarie.

Amy Yong
Macquarie Research

Maybe 2 questions. First, Roger, you spent some time in your prepared remarks talking about partnerships. And I guess it's been almost a year since SiriusXM made an investment in Pandora. Any cross-learnings that you could share? And maybe -- and talk through how that relationship might have

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evolved. And my second question is actually on the cost side. I guess, marketing aside, are there any other costs that you're looking to control? And maybe if you could talk through some of the costs related to AdsWizz.

Roger J. Lynch
Former President, CEO & Director

Sure. On Sirius, we have found them to be a very supportive shareholder. And as you may know, between Sirius and Liberty, they have 3 of our 9 board members. And so I've been quite pleased with the alignment we've had broadly across the board, but also with their directors on the overall strategy that we're pursuing. And we have looked at different opportunities and things we could do together. We've done a little bit of advertising across the platforms to do some tests. But it's still a little bit early because as you know, when I joined, we had to focus on a number of areas that we -- that were our highest priorities, one of which was our ad tech investments and the other which was really rebuilding marketing in a data-driven way and the marketing technology tools and the whole team that we've had to put in place. So I'd say those are still opportunities for us to pursue. Nothing that we can announce right now, but certainly, across things like content and potentially audience sharing and marketing, there could be opportunities in the future with them.

Naveen Chopra
Former Chief Financial Officer

And on the cost side of the question, Amy, as you know, we did some restructuring earlier in the year that allowed us to take about $40 million of expense out which we then reinvested in various growth initiatives. And we have continued, as we work through the year, to find other efficiency opportunities, such that as we get into next year, I think we got a pretty good line of sight as to how we are at kind of a higher run rate of savings, so to speak, than the $40 million that we were at, at the beginning of last year. And there's a lot of different components that go into that. We've talked in the past about opportunities for automation or in some cases, outsourcing and in particular, continuing to build staff in Atlanta, which is an area that has actually been very successful for us. And we've already hired almost 80 people there. And I think the most exciting part about that is the quality of the talent that we found there and the fact that we've been able to hire them much more quickly than we are able to in the Bay Area, which obviously helps everything we're trying to do from a growth and innovation perspective.

Operator

Your next question comes from Peter Stabler from Wells Fargo Securities.

Peter Coleman Stabler
Wells Fargo Securities, LLC, Research Division

2 for me. Going back to AdsWizz, could you tell us whether there are any plans to incorporate video advertising into the avails and whether local audio advertising will become available? And then secondly, on the ad-supported listener hours, I've seen the improvement there quarter-to-quarter. Wondering if investors could expect, at some point, that to turn positive and whether you could frame that for us at all.

Roger J. Lynch
Former President, CEO & Director

Sure. AdsWizz is an Audio Programmatic platform. So we are -- we do have video programmatic available now, but there aren't plans to make that available through AdsWizz. AdsWizz, I think, is going to stay focused on their core strength, which is in audio. And is your -- your question is about local availability for programmatic, is that correct?

Peter Coleman Stabler
Wells Fargo Securities, LLC, Research Division

Yes. Exactly. So let's say, Tier 2 auto dealers across the U.S. who are out there buying 45 radio markets through a centralized ad agency in New York. Would they be able to go and place local buys through AdsWizz?

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Roger J. Lynch
Former President, CEO & Director

Yes. Yes. So we have an initiative that I just talked about a little bit earlier, which is self-serve capabilities that we're building that are really designed to enable smaller advertisers to transact with us in a much more efficient way than, frankly, a way that we can afford because right now, our -- the cost structure of our manual processes don't really enable us to work with smaller advertisers. So a combination of self-serve tools and which is -- will be enabled through tools that AdsWizz already has built will enable us to go after local.

Naveen Chopra
Former Chief Financial Officer

And on the ad hours, without putting any specific time lines out there, yes, our goal and the trajectory we see is one that involves ad hours turning positive in the future. So that's definitely something that we are aiming for.

Operator

Your next question comes from Rich Greenfield from BTIG.

Richard Scott Greenfield
BTIG, LLC, Research Division

Kind of 2 interrelated questions. First, you hired a new CMO over the last 6 months. And I'm curious, as Aimée starts to launch this new marketing campaign that you highlighted earlier on the call, what's the goal? Like you talked about a lot of things on the call, from ad-supported to Premium Access, to podcast to subscription. How are you going to -- well, like what's the story you plan on telling? What is the message you want consumers thinking about as you start to launch this ad campaign? And then the related question that ties into it is looking at your numbers, assuming we're doing our math right, it looks like subscription users of Pandora stream about 3x as much per day as ad-supported. So if you end up driving more and more people towards subscription, it seems like you get more and more of your kind of best advertising-driven users moving to the ad-free product. And so I'm just trying to understand how you balance that shift away from ad towards subscription given that dynamic?

Roger J. Lynch
Former President, CEO & Director

Yes, Rich, good question. So we -- as you mentioned, Aimée Lapic, our CMO, who joined a little over 6 months ago, with really the objective of rebuilding our marketing department with a whole new set of capabilities, especially around using the data. I mean, Pandora -- one of Pandora's biggest strengths is the wealth of data and frankly, data science capabilities we have. And it just really struck me at how little Pandora used it in its own marketing. We used it really well in other areas, like our product and for advertisers on our platform, but not nearly as well in our own marketing. And so really, that initiative then was about building the team and then building the marketing technology tools that we needed to. The message -- the objective really is for, today, music listeners, to meet them on the terms they want to be on. So what I mean by that is we're obviously seeing strong growth in our subscription business and we expect that, that will continue, and there's strong growth overall in subscription music. But we also know that the bigger revenue pie today is actually advertising. There's more ad-supported listening, hundreds of millions of listeners in the U.S. There's more ad revenue in audio than there is subscription revenue. And we think that, that is ripe for us to go after. So it really is about meeting consumers. It's like I talked about transacting with advertisers, the way they want to transact, it's the same for consumers. We want to transact with consumers in the way they want to transact. So it may be a consumer who has a propensity to pay for a subscription service. That's great. We've got 2 tiers of subscription. But we think there will be a very large segment of the market for whom subscription is not the right answer and we'll be the leader in the ad-supported side of that.

Richard Scott Greenfield
BTIG, LLC, Research Division

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So we should expect the ad campaigns to very much center on you expanding your reach on the ad-supported side?

Roger J. Lynch
Former President, CEO & Director

We don't -- it's not so much a matter of how much we're going to spend on -- we don't think about it as how much we're going to spend on subscription versus ad-supported. When we're doing the marketing correctly, we are turning those dials on a daily basis based on ROI. So we have -- we are building pretty sophisticated models on lifetime value by channel, so it's not just are you an ad-supported customer or not, but actually, what are your demographics, how did we acquire you. And we can predict lifetime value pretty effectively with that and then look at our spend, and where we're getting the most return on investment on the spend, we'll spend more there. And so that will move back and forth between subscription and ad-supported based on return on investment rather than some prescribed percent that we would start with because when you approach it that way, you're bound to get it wrong. It's much more effective to listen to your customers and what they're telling you. And the way they tell you is by how they respond to the various types of advertising that you do.

Naveen Chopra
Former Chief Financial Officer

And Rich, it's Naveen. I would just be careful. I mean, when we talk about investing more in marketing, don't think about this as one specific campaign. It's a variety of different initiatives using a lot of the tactics that Roger described, some of which are going to be focused on people who have a propensity to take our subscription service and some that we think can be attractive in our ad-supported tier. So it's much more broad-based.

Roger J. Lynch
Former President, CEO & Director

Yes, and to your second part of your...

Richard Scott Greenfield
BTIG, LLC, Research Division

And when should we expect to see this?

Roger J. Lynch
Former President, CEO & Director

Well, it's happening now. I mean, it's just -- it's a matter of scale and how much we spend. And our goal is to profit-maximize our spend each month, and we're getting better at that. And as I mentioned in the prepared remarks, the way we can do that more effectively is to push that marginal cost curve down and to the right. And what that means is as we do that, we can spend more in aggregate each month on marketing and still get a return on that investment. So that's an ongoing. It's not a, oh, yes, it's done, and it launches in October. That's a month-over-month. And we're seeing those improvements month-over-month exercise. On your second part of your question about the subscribers streaming 3x as much as ad users, yes, that's one of the great things about having a subscription business, is you can capture really engaged listeners, but they tend to come from your ad business. And so despite that, we have improving engagement trends within our ad business. So our marketing efforts are really designed to go after 3 areas: drive subscription; drive monthly active users; but also drive engagement with our ad-supported users because ultimately, we monetize ad hours rather than the number of listeners we have. And we're seeing good trends in our engagement with ad-supported listeners despite the fact that, as you pointed out, some of the best ones do end up moving into subscription.

Naveen Chopra
Former Chief Financial Officer

And keep in mind that the transition from ad-supported to subscription and the difference in functionality is a catalyst for incremental hour consumption. It's not just that we're taking people and they're listening

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to the same amount. And you see it even with Premium Access. You can take the same ad-supported listener, you give them Premium Access functionality, and they will listen more than they did without that functionality.

Operator

Your next question comes from Heath Terry from Goldman Sachs.

Adam R. Hotchkiss
Goldman Sachs Group Inc., Research Division

This is Adam Hotchkiss on for Heath. Just 2 quick ones for me. With the recovery in ad hours and subscription hours, when we think about the fact that the listener hours per active user on an aggregate basis was the best you've seen in -- over the last 6 or 7 quarters here, is there something to call out there, whether it's seasonality or Premium Access, that you would point to? And then in terms of connected device listening, you guys have previously given a year-over-year growth number in connected device listening. Is there any update to that?

Naveen Chopra
Former Chief Financial Officer

Yes. So on the hours per active, the answer is actually related to the prior question. And I think what you're seeing in that blended number there is the impact of people moving to subscription and then consuming more when they're in the full Premium product than they did in the ad-supported product. So that benefits overall hours per active. And then as far as connected devices, I don't have a specific number to give you, but I think the trend remains pretty constant in the sense that those platforms continue to be one of the fastest-growing sources of hours.

Operator

Your next question comes from Maria Ripps from Canaccord.

Maria Ripps
Canaccord Genuity Limited, Research Division

Roger, now that the AdsWizz deal is closed, could you talk about your plans around the sales force expansion next year? And you touched on this a little bit. To what extent can AdsWizz add efficiency to the sales process?

Roger J. Lynch
Former President, CEO & Director

Yes, yes. I mean, I think you hit it right with the second part of your question, which is we do think that AdsWizz can add efficiencies really in 3 areas. As I mentioned earlier, helping us go after smaller advertisers. Second is what you just asked about, which is, from the sales force, as we move more of the just interaction and transaction through to programmatic, it does free up resources, so we would expect to get more efficiency out of our sales force. And then finally, in our ad operations, which are, frankly, overly manual today, we think there's material upside in using AdsWizz technology to improve the -- those flows and to automate a lot of those flows.

Naveen Chopra
Former Chief Financial Officer

And Maria, one thing I would just add to that is, I mean, we are already seeing, through a variety of initiatives, not just AdsWizz, material improvements in the efficiency of our sales force. And one metric that I look at, for instance, is just the amount of quota being delivered by each salesperson. And that's been up kind of, on a percentage basis, double digits year-over-year. So that's all moving in the right direction.

Operator

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Our last question at this time is from Dan Salmon from BMO Capital Markets.

Daniel Salmon
BMO Capital Markets Equity Research

Roger, could we just return to the self-serve platform or your plans for it? I recognize you are not giving us any incremental detail just yet as you work out your road map for it. But what I'm mostly curious about is with some of the tools on the buy-side tools that AdsWizz has brought you and having had it under the hood now for a little period of time, you may not be willing to share your road map with us just yet, but are you more confident in that road map? Do you have, internally at least, a little bit tighter of a time line for that and exactly the type of R&D work you want to do? I'd just love to hear a little bit more about that.

Roger J. Lynch
Former President, CEO & Director

Yes, Dan, we have been very pleased with this acquisition. And we have had our teams doing joint road map planning, and our engineers come back from Romania with huge smiles on their face because they're seeing all the capabilities that exist there and the positive attitude of the workforce. And so we're quite optimistic, and I'd say it's frankly exceeding our expectations on what we're going to be able to do on our road map. I think first evidence of that is that we launched Audio Programmatic pretty quickly after the closing on the acquisition.

Okay. I think that's the end of the questions. So let me just wrap up here. We -- obviously, with the number of companies that have reported in the last week, you've seen a mixed bag, especially for advertising-supported Internet businesses. We didn't see that. We had a very good quarter. Very strong revenue, up 12%. It exceeded the high end of our guidance. That's the third quarter in a row that we've exceeded expectations. And we've seen encouraging audience metrics. We're starting to see the first shoots of our strategy around partnerships with a number of announcements that we made, and obviously, we just launched Audio Programmatic. So the strategy that I outlined when I joined the company is starting to come to fruition, and I think we're starting to see the results and we're pleased with the quarter. So thank you all for your questions.

Operator
That concludes Pandora's Second Quarter 2018 Financial Results Conference Call. We will return you to Pandora's Wu-Tang Clan station.

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Sirius XM Holdings Inc. NasdaqGS:SIRI

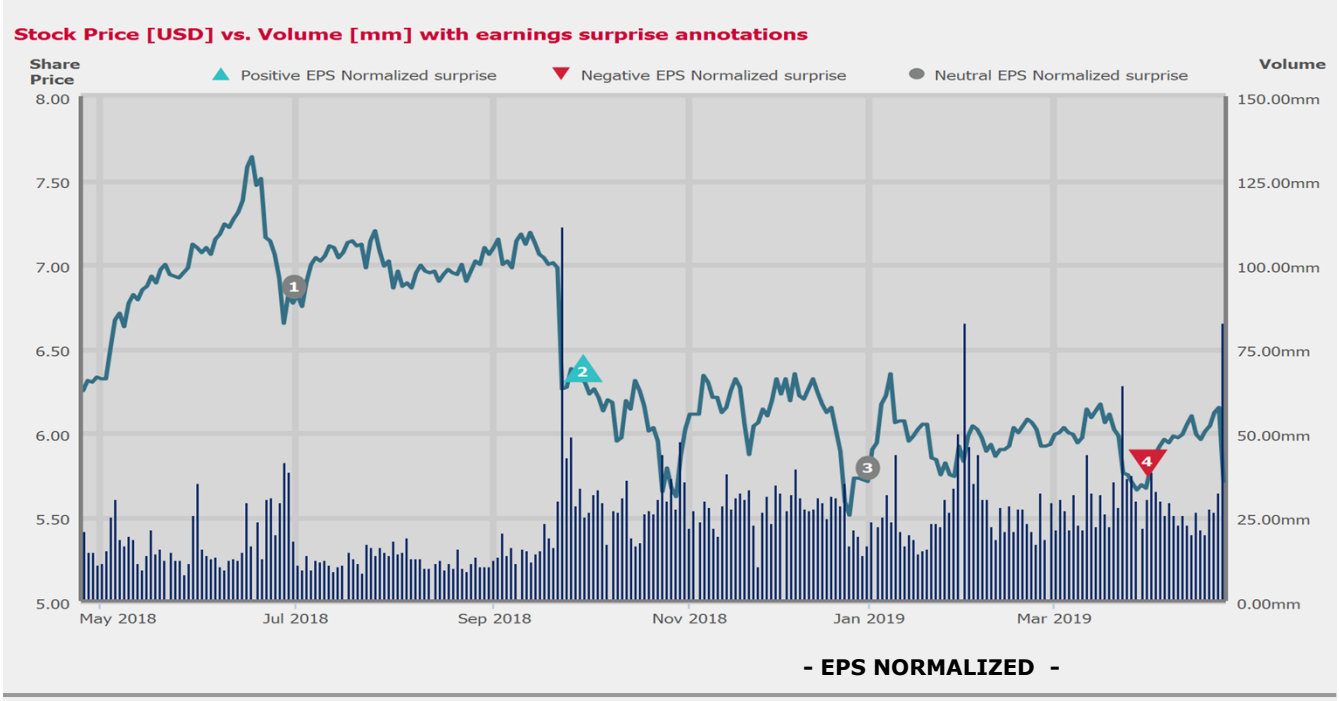
FQ1 2019 Earnings Call Transcripts

Wednesday, April 24, 2019 12:00 PM GMT

S&P Global Market Intelligence Estimates

	-FQ1 2019-			-FQ2 2019-	-FY 2019-		-FY 2020-
	CONSENSUS	ACTUAL	SURPRISE	CONSENSUS	CONSENSUS	GUIDANCE	CONSENSUS
EPS Normalized	0.05	0.04	▼(20.00 %)	0.05	0.22	-	0.26
Revenue (mm)	1774.04	1744.00	▼(1.69 %)	1949.42	7771.94	6100.00	8301.04

Currency: USD
Consensus as of Apr-23-2019 11:22 AM GMT



- EPS NORMALIZED -

	CONSENSUS	ACTUAL	SURPRISE
FQ2 2018	0.06	0.06	1 0.00 %
FQ3 2018	0.06	0.07	▲2 16.67 %
FQ4 2018	0.06	0.06	3 0.00 %
FQ1 2019	0.05	0.04	▼4 (20.00 %)

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Presentation

Operator

Good morning and welcome to SiriusXM's First Quarter 2019 Results Conference Call. Today's conference is being recorded. [Operator Instructions]

At this time, I'd like to turn the call over to Hooper Stevens, Senior Vice President, Investor Relations. Mr. Stevens, please go ahead.

Hooper Stevens
Vice President of IR & Finance

Thank you, Matt. And good morning, everyone. Welcome to SiriusXM's First Quarter 2019 Earnings Conference Call.

Today, Jim Meyer, our CEO, will be joined by David Frear, our CFO. And at the conclusion of our prepared remarks, management will be glad to take your questions. Scott Greenstein, our President and Chief Content Officer, will also be available for the Q&A portion of the call.

First, I'd like to remind everyone that certain statements made during the call might be forward-looking statements as the term is defined in the Private Securities Litigation Reform Act of 1995. These and all forward-looking statements are based on management's current beliefs and expectations, and necessarily depend upon assumptions, data or methods that may be incorrect or imprecise. Such forward-looking statements are subject to risks and uncertainties that could cause actual results to differ materially. For more information about those risks and uncertainties, please view SiriusXM's SEC filings. We advise listeners to not rely unduly on forward-looking statements and disclaim any intent or obligation to update them.

As we begin today, I'd like to remind our listeners that today's results will include discussions about both actual results and pro forma adjusted results. All discussions of pro forma adjusted operating results assume the Pandora transaction closed January 1, 2018, and exclude the effects of stock-based compensation and certain purchase price accounting adjustments.

With that, I will hand the call over to Jim Meyer.

James E. Meyer
CEO & Director

Thanks, Hooper. Good morning.

I can't think of a more exciting time to be at SiriusXM, newly joined with Pandora and forging our own unique path in audio entertainment. I'd like to thank the entire team at SiriusXM and Pandora for working so hard and so effectively to make our combination a success. We are right where we want to be and moving very fast. We have a new organization and reporting structure to emphasize speed and to bring people together. It's still the first inning, but I'm pleased with the enormous progress we've made so far in streamlining our business, developing new strategies and working so well together.

We are pleased to initiate new pro forma revenue guidance for 2019 of approximately $7.7 billion; reiterate adjusted EBITDA guidance, now pro forma, of approximately $2.3 billion; and reiterate free cash flow guidance of approximately $1.6 billion. And we are reiterating our existing SiriusXM subscriber guidance. The hunt for Pandora cost synergies is going better than expected. Obviously, it's rolled into the guidance, but at this point we expected to -- we expect to exit 2019 at an annual run rate of $75 million or more, up 50% from our call in February.

I want to emphasize the enormity of our new platform. We are now, bar none, the leader in audio entertainment in North America with over 100 million monthly listeners. That's roughly 35 million pay -- self-pay subscribers on the 2 services and 70 million ad-based listeners and trialers. The SiriusXM

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and Pandora suite of services, both paid and free, is really unmatched by any of our competitors. It's designed to appeal to listeners and subscribers, fans of music, talk and everything in between, as they move throughout the day from home to vehicle and beyond. Now you can accuse me of hyperbole, but with all the tools and offerings we now have, I've challenged our team that our goal should be to never lose a listener. And by the way, we intend to use this platform to be a strong ally to artists as they grow their fan base and to labels as they break new artists.

Stepping back, the core business model and strengths of the SiriusXM service are unchanged: unmatched content, a powerful high-margin subscription business, long-term commitments from OEMs, and growing distribution out of car. We are extremely focused on delivering the excellent financial and operating performance that you've come to expect. Our subscriber growth in the first quarter puts us solidly on track to achieve our full year guidance of SiriusXM self-pay net add additions approaching 1 million. Churn was stable. And ARPU in the first quarter grew at its fastest rate in nearly 9 years at 4.4%.

We're pleased that auto sales remained robust in the quarter. We continue to see strong new car penetration and a buildout of our domestic fleet. With our gold standard deal at Toyota phasing in later this year, our penetration rate will exceed 80% next year, and the enabled fleet size should grow to over 200 million vehicles over time. Growing new car penetration also extends the tail of our used car business, where we continue to make investments in technology and field teams. Our used trial distribution has now grown to 37,500 dealerships.

We are more focused than ever on accelerating the rollout of our 360L platform across our new vehicle penetration. You may have seen the press release from General Motors in January announcing the all-new model year '20 Cadillac XT6, which will debut with 360L. We're excited for further announcements from GM later this summer showing an expansion of 360L across a wide range of 2020 model year vehicles. 360L is the future platform for SiriusXM in the car, and all of our OEMs are at some stage in moving to full adoption. Over time, we also expect that the 360L rollout will significantly benefit the Pandora platform by introducing a better native environment within the vehicle.

The first quarter also saw the largest expansion in content lineup in SiriusXM's history with the addition of 100 Xtra music channels. This will be joined over the summer by a variety of initiatives designed to increase the rich value of SiriusXM to our subscribers and potential subscribers. This summer, all Sirius Select subscribers will gain access to streaming at no extra charge, allowing them to take SiriusXM content out of the vehicle. With this step, we hope streaming becomes a part of the SiriusXM experience for a much greater number of our subscribers. Our expanded video offering will also roll out this summer and, with more content continuously added, should reach a couple thousand video clips by the end of the year. And we will launch a personalized streaming music feature within SiriusXM powered by the Pandora genome. Think about that. Just a few months after the merger, the heart of Pandora's personalized service will become a part of the SiriusXM experience. These long-term investments in SiriusXM product and brand are a big, big deal.

We also recently launched an $8 per month streaming-only package called Essential, which includes a music and talk package built especially for people who want to listen on mobile, tablet, desktop and home devices. With new plans like this, streaming at no charge for most SiriusXM subscribers and the deployment of 360L, more of our content delivery than ever will be across IP. And that's before we talk about Pandora. As I've said before, Pandora's assets, great talent, technology, products, data and brand, properly managed, will deliver value to our shareholders and position SiriusXM for meaningful long-term growth. And there are a tremendous number of product initiatives underway at Pandora to improve both the user experience and the business. I like to joke that I spent 10 years telling people that the music genome was no good. Well, guess what? It's very good. And I also used to joke that I used to stay up at night worrying about Pandora's position in the car. Well on that front, maybe I should have slept better because in the car the Pandora position isn't so strong, and that's an area we are going to improve dramatically.

When it comes to the merger, I can tell you we're very far along and moving very fast on cost reduction. We see where we need to go here. Revenue synergies will be our next focus and will take a bit longer. There's still a lot of work to do at Pandora, but the financial results in the first quarter highlight improving

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sales execution. First quarter revenue grew 14%, and RPM hit an all-time first quarter high of nearly $63. And gross margins significantly expanded, but we still need to make much more progress against 2 key goals: stabilizing ad-based listening and strengthening our position as the largest digital audio advertising player in the U.S. These will require a long-term focus on expanding content, vastly improving auto integration, continuing improvements in ad technology and solid execution.

A couple of updates on our consumer features and ad products on the Pandora side. Premium access, which was launched in early 2018, lets ad-supported users unlock interactive features by watching short video advertisements. This will allow us to continue to grow our share of digital video ad budgets and economically give our free listeners more interactivity. We will continue to expand podcasting initiatives, which I'll talk more about in a moment. Dovetailing with podcasts, we also launched Pandora Stories earlier this year, which allow artists and creatives -- and creators of all kinds to blend spoken word with music. And about a month ago, we launched Pandora Modes, giving listeners more control over what kind of songs are played on their stations. For instance, they can opt for deeper discovery, more crowd favorites or new-release content.

The past year has also been a time of innovation and improvement in Pandora's ad technology. Earlier this year, we began selling commercial time and streams targeting smart speakers like Amazon Echo and Google Home, opening a path for advertisers to reach people as they use voice-activated assistants in their home. Our programmatic platform, launched in 2018, is now delivering close to 10% of our audio revenue on Pandora and sold to over 170 different advertisers in the first quarter. The acquisition last year of AdsWizz has enabled us to create a large-scale platform to serve the needs of leading audio publishers such as SoundCloud. This extends Pandora's ad reach to over 100 million listeners, and we have a real opportunity to further grow this off-platform business over time for -- with other audio publishers.

Let me really emphasize this point. We are now actively in the market with the ability to deliver impressions across a base of more than 100 million listeners in the United States.

Stabilizing and growing listener hours on the platform is priority #1 at Pandora. It's going to take time and hard work, but we pride ourselves in doing what we commit to do, and I'm confident we will get this right. Over the medium and long term, we expect Pandora will benefit from a more differentiated content offering, more efficient data-driven performance marketing, cross-promotion from the SiriusXM active and inactive user base and a vastly enhanced in-vehicle experience. And of course, we will continue to focus on building stronger relationships with leading advertising brands.

Speaking of brands. I've talked about maintaining and growing our 2 great brands: SiriusXM and Pandora. The foundation of each is vibrant programming beyond what regular radio can deliver, and with great curation and depth that goes beyond just a playlist. Using our content on both platforms is going to improve listener engagement and help us get more value out of our spending. Scott Greenstein is leading Pandora's first-ever content team, which is looking at music, talk, podcasting, enhanced playlists and interactive channels to deliver the best content to listeners. Earlier this month, we debuted Pandora NOW, a full-time SiriusXM channel curated with the help of Pandora data. It's also available on Pandora as an interactive channel. It's very exciting to create this new listening experience for all 100 million-plus combined listeners. Further, we recently made available a suite of SiriusXM stellar talk, sports and comedy shows as podcasts exclusive to Pandora. Our Podcast Genome Project helps overcome the discovery challenge by evaluating content and leading you to the best stuff.

As I mentioned earlier, we added more than 100 new SiriusXM streaming music channels, the largest addition ever, all of them based on our existing popular channels but more finely tuned to fit any mood, occasion or activities. These have been a hit and have driven an increase in streaming activity on the SiriusXM platform. Quite frankly, I've never seen so much creation and energy pouring into our content offering as I'm seeing today.

Just to conclude. Following the close of Pandora, we have resumed our stock purchase program. David will expand on that in a moment. The SiriusXM business continues to scale in both terms of subscribers and profitability, and we are positioning the brands and service for long-term success. We are in the early stages but moving very quickly on the necessary steps with Pandora. We feel confident about our newly issued guidance, and we are excited to be creating the best audio entertainment company in the world.

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With that, I'll turn it over to David.

David J. Frear
Senior EVP & CFO

Thanks, Jim. Good morning, everyone, and thanks for joining the call.

As you heard from Jim, SiriusXM had a fantastic quarter. The auto market continues to be healthy. Churn performance continues to improve. Ad monetization is strong. Pro forma adjusted EBITDA grew 27% year-on-year. And we've already repurchased 63% of the shares issued in the acquisition of Pandora. We've said this acquisition is not about cost synergies, yet we expect the cost synergies to exceed $75 million per year. The integration of the 2 companies is moving quickly. We have created Pandora's first content team, and they have moved quickly to bring Pandora NOW to SiriusXM and SiriusXM talk content to Pandora.

As I discuss the results for the quarter, I'll focus on the pro forma results, which combine the 2 companies for the full quarter of both years. To help put this in a historical context, we'll make available 9 quarters of pro forma trended financials for the combined company on our IR website. As you consider our new guidance for the combined company, please note that we are maintaining our original free cash flow and adjusted EBITDA guidance. We feel confident that SiriusXM can absorb the Pandora operations and meet or beat the guidance we gave you in January. So let's dive in.

Robust March SAAR brought the first quarter in at 16.9 million cars, just 1% off Q1 2018's strong pace. Increased fleet mix and an unexpected head unit change at an Asian OEM pushed pen rate down to a little over 73% in the quarter. Nevertheless, we remain confident that our pen rate will exceed 80% as we move into 2020. The installed base of vehicles grew 11% year-over-year to 119 million or approximately 45% of the total cars on the road in the U.S. The used car penetration rate was approximately 44% in the quarter, taking up about 400 basis points year-over-year and helped lift self-pay gross additions from the used channel to 38% of the total, up from 33% the prior year period. Used car trial starts grew 18% at the end of the quarter. The total trial funnel stood at over 9.3 million.

Self-pay net additions in the quarter were 131,000, ahead of our expectations, bringing the self-pay base above 29 million for the first time ever. With a flat paid trial funnel, the total subscriber base reached a record 34.2 million subs. Net adds benefited from continued strong churn performance at just 1.8% per month, identical to the strong churn performance from last year's first quarter, with rising vehicle churn being offset by improving voluntary churn.

SiriusXM ARPU in the quarter was $13.52, growing as Jim said by 4.4%, which was the fastest rate in 9 years. Together with the more than 3% growth in our subscriber base, SiriusXM's segment revenue for the first quarter grew 8.5% to nearly $1.5 billion. Contribution margin in SiriusXM remained robust at approximately 70%, flat year-over-year. Total cost of services grew in line with revenue to $569 million compared to $524 million in the prior year period. Together, this produced a gross profit of $926 million, up 8% over the first quarter of 2018, and resulted in a gross margin of 62%, approximately flat. This is the last quarter we'll have a clean look at the separate economics of the 2 businesses, and I'm thrilled to report that adjusted EBITDA at SiriusXM clocked in at 40.6%.

At Pandora, advertising revenues had their best first quarter ever, posting 7% growth to approximately $231 million. Higher in-quarter bookings, strong sell-through and pricing, growth from the AdsWizz platform and the first contributions from the SoundCloud relationship drove the strong performance. Ad RPMs for the quarter totaled a first quarter record of $62.60, approximately 13% higher than the first quarter of '18. MAU and ad hour trends continued downward, with MAUs down 9% to 66 million and ad hours down 11% to 3.42 billion. Through investments in content, distribution, vehicle integration and ad technology, product and cross-promoting the brands, we believe the combination of Pandora and SiriusXM gives us an unbeatable product lineup.

Pandora's self-pay subscribers grew by 246,000 net additions in the first quarter and by 9% or 534,000 net adds versus a year ago, to a total of 6.16 million. Paid promotional subscribers were up by 736,000

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year-over-year following a successful third quarter partner promotion. This growing subscriber base produced subscription revenue of $134 million, up 29% over the first quarter of 2018.

Total Pandora revenue in the quarter grew 14% to $365 million.

Total cost of services held flat over the prior year at $254 million, with lower revenue share and royalties as a result of the restructuring of the minimum guarantees to the music label which had burdened the prior year by about $15 million. As a result, Pandora's gross profit jumped 73% to $111 million in the first quarter. This represented a margin of approximately 30%, 1,000 basis points higher than the first quarter of '18.

For the combined company, revenue grew 10% to approximately $1.86 billion, with adjusted EBITDA growing 27% to $567 million. This resulted in an adjusted EBITDA margin of 30.5% in the quarter, growing over 400 basis points on the prior year, driven primarily by revenue growth and cost efficiencies. As you look at the combined P&L, nearly every cost deducted in arriving at adjusted EBITDA declined as a percentage of revenue. Of the 4 percentage point improvement in adjusted EBITDA margin, SAC contributed 1.4%, revenue share and royalties contributed 1.2%, and G&A and sales and marketing combined to contribute 0.9%. And the contribution from the cost synergies is still to come. We converted approximately 53% of this adjusted EBITDA into free cash flow totaling $300 million in the first quarter of '19, not including the month of preacquisition results at Pandora.

Our effective tax rate for the quarter totaled 33.3% compared to 21.7% in the prior year period, with the change driven primarily by an increase to the valuation allowance related to federal research and development credits as a result of our expected use of Pandora NOLs. We continue to expect our full year effective tax rate to be approximately 24%.

Earnings per diluted share for the first quarter of '19 on a GAAP basis were $0.03, with [a fully diluted] average share count of 4.68 billion shares, which included the issuance of 392 million shares related to the Pandora acquisition.

Based on our strong performance so far this year, our new pro forma guidance for 2019 calls for revenue of approximately $7.7 billion. We are maintaining guidance for self-pay net subscriber additions at SiriusXM of approaching 1 million. And even layering in Pandora, we are maintaining adjusted EBITDA guidance of approximately $2.3 billion and free cash flow guidance of approximately $1.6 billion.

In the first quarter, we spent approximately $604 million to repurchase 101 million shares at an average price of $5.96 and paid approximately $57 million in dividends. Year-to-date, capital returns total approximately $900 million. From the date of the announcement of the Pandora transaction through Monday, we have repurchased over 63% of the 392 million shares issued in the transaction.

Total debt now stands at approximately $7.2 billion, with no bond maturities until August 2022. Leverage is 3.2x trailing pro forma adjusted EBITDA. With $62 million in cash and nearly $1.2 billion available under our revolver at quarter end, we entered the second quarter with ample liquidity to continue investing in the business, pursuing strategic investments and returning capital to shareholders.
And operator, with that, let's open it up for questions.

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Question and Answer

Operator

[Operator Instructions] And your first question will come from Ben Swinburne with Morgan Stanley.

Benjamin Daniel Swinburne
Morgan Stanley, Research Division

Jim, just sort of 2 maybe bigger-picture questions. And the first one is you guys have been generally delivering kind of better-than-expected churn and conversion rates, when you look across all the channels at the satellite business over the past few years. And I'm wondering, as you bring Pandora in, how do you manage the company so that people remain focused and not distracted by all the new opportunities and challenges ahead? And if we externally should be expecting more volatility? Or I'm guessing, based on the prepared remarks, you guys remain quite confident in your ability to walk and chew gum, but I wanted to hear your thoughts on that since it's a new challenge for you. And then second, and a little bit related. We've been spoiled by kind of consistent margin progression at this business for years. And as you think about pivoting or migrating to more and more streaming, does that change? Is there a period of time where you're either reinvesting back in the business more or changing the unit economics? Or do you think you can harvest the sort of streaming opportunity at the combined company while continuing to deliver kind of steady margin expansion over time?

James E. Meyer
CEO & Director

So Ben -- thanks, Ben. Let me take them -- let me take the first one. And then on the second one, David and I will kind of both contribute. On the first one, I almost feel like you've attended the over, I think -- I don't know how many town halls and employee meetings I've had over the last 8 weeks as we've rolled out our new organization and talked about what our priorities are. Rest assured, I understand very well what we've delivered, at least under my tenure over the last almost 7 years of CEO, as being the CEO, what our team has done. More importantly, our team understands it very well. We're organized for success there. And quite candidly, Ben, I don't expect any kind of a blip in that performance based on having anything to do with Pandora, okay? And frankly, I still see a very strong performance this year in terms of our subscriber metrics. So we're very focused and we won't lose that focus. And I also -- I love the acquisition of Pandora. I love having it in our portfolio. I particularly love all the options it gives us, starting with, I think, just this month alone, we've shown the power of being able to create -- to be able to show what combining human creation along with a very strongly performing set of automation called the Pandora genome together, what the vast variety of content opportunities we have. And I couldn't be more excited. That said, we fully understand the SiriusXM model and we fully understand where we need to keep our attention. Rest assured, I give you my commitment, we have that.

On the second point. I don't expect there to be a big change in the way our margins perform. We obviously don't know what'll happen to [webcasting 5] down the road and where those [costs] might go, but what we do, I think, fully grasp and what is a wave that is sweeping across this company -- and I think, frankly, it's been good, it's been accelerated by bringing the Pandora team under the same umbrella -- is that we shouldn't care where people listen. Our job is to get people to listen. And when they listen, I'm confident, particularly on the SiriusXM platform, no matter which platform they listen on, we're going to monetize that better than anyone else and consistent with where are we going. I can't help but crow a little bit, and it'll be the last time I crow on this, but in the first quarter, on the SiriusXM side, we delivered EBITDA margin of more than 40%. That's been a goal of mine for -- since I've been in charge of the company, and it's something I'm very pleased with. Obviously, we will be much more focused on the total EBITDA margin of the company going forward. David, do you want to add anything on that question?

David J. Frear
Senior EVP & CFO

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Yes. Ben, I think in a lot of ways it -- on the old SiriusXM side, it really is no change, all right? We've told you that we thought that EBITDA margins could exceed 40%. They have. And -- but we've also said that what we -- what our real objective is, is to drive the maximum amount of free cash flow out of the enabled vehicle fleet. And that continues to be the way we think about it, with just a little bit of a twist now that we've got Pandora's 66 million listeners onboard. It's to drive the maximum amount of free cash flow out of that listener base, whether they're in vehicle or whether they're out of vehicle. And we've long been willing to invest in initiatives that we think will drive more free cash flow out of the business even if it comes at the expenses -- the expense of margin expansion. And so look, in the short term obviously driving after cost synergies is going to improve the, let's call it, margin efficiency of the combined organization. There is solid growth in Pandora coming, and we think we can get that at -- in a very cost-effective manner.

Operator

And next we will go to Sebastiano Petti with JPMorgan.

Sebastiano Carmine Petti
JP Morgan Chase & Co, Research Division

Just wanted to see if you can unpack the 1Q self-pay subscriber results in the quarter. I think you called out the OEM that drove the pen rate lower, but it implies -- I guess the results imply that conversion rates were a little bit lower in the quarter. Any color you can potentially give us on that?

David J. Frear
Senior EVP & CFO

I think that the quarter came in above our expectations, and so we're on track for guidance. With the automotive business -- it's funny. It's hard for me to say the words the automotive business is slowing. I know it's factually correct, but selling at a 16.9 million pace is incredibly strong, but it is less than the prior year. And with the pen rate down a little bit, there's a little bit less coming into the top of the funnel.

James E. Meyer
CEO & Director

And David, I just want to emphasize the blip in pen rate this quarter is not a mid- or a long-term phenomenon, okay? We understand exactly what occurred there. And quite candidly, it is a short-term issue that many -- no. We're underway to improve that. It's not a big deal. I assure you that. Stay focused on what I said, which is my -- our commitment to you is that you should plan our business going forward from the beginning -- the end of this year at an 80% or greater penetration rate. And I'm really confident of that number. So I'll reiterate what David said. There really wasn't anything in the first quarter, certainly compared to the plan that David and I let out for our team that we drew up, honestly, back in the fourth quarter for what we expected in the first quarter, that gives us any concern.

Sebastiano Carmine Petti
JP Morgan Chase & Co, Research Division

Great. And then just thinking about -- you mentioned that bringing Pandora into the fold give you kind of the good, better, best. You have the ad supported. You have the $5 and $10 tiers at Pandora and then a higher monetization at the legacy SIRI -- satellite platform. Can you just think about how does that product suite evolve over time? Obviously, you just recently launched the new $8 streaming service at legacy SIRI as well. So just kind of thinking about how your thoughts evolve there and potentially any color on revenue synergies that could -- new product suites that could evolve over time.

James E. Meyer
CEO & Director

Yes. So the honest answer is I don't know. I do know I love the different combinations. As Scott's team brings us more and more opportunities and our marketing teams figure out how to package those, I think you're going to see us try a whole variety of stuff and test into things that give us -- quite candidly, in an answer to the point that David made earlier, that end up resulting in the most free cash flow down the

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road. I do want to make a couple of comments. I -- and I don't want to sound too much hyperbole, but I really like our position. I mean over 100 million monthly listeners; over 80% penetration long term in new vehicles for a long, long time to come, with the tail of the used car business behind that.

We now have the ability to take the best of human curation and machine-generated, artificially intelligence generated music genome, and combining those into a variety of unique products, and now 2 very powerful revenue streams in advertising and subscription, I just think gives us a tremendous ability to go after the radio platform in the United States like no other. I don't know specifically what combinations will evolve. I can tell you -- I'll just candidly tell you, I've been really surprised how much positive feedback we've gotten just on the Pandora NOW channel from the SiriusXM subscribers. So I think the answer to your question is we're just going to keep trying it based on our insight, our experience and our consumer knowledge, and adjusting it quickly to what our customers love.

Operator

And our next question will come from Vijay Jayant with Evercore.

Vijay A. Jayant
Evercore ISI Institutional Equities, Research Division

This quarter, you guys reported pretty good monetization on Pandora even though your ad-supported listening hours was declining, so there seems to be some inefficiencies you've gotten even though you haven't really turned around the listening hours, which is really your key focus. Can you just talk about how much more there is? Obviously, we'll be waiting for ad -- listening hours to improve, but just the efficiency of improving on the current level of listenership, what's the opportunity there? And second, I think this is the first time you didn't report subscriber acquisition costs on the satellite side. I know the mix is shifting with the Toyota standardization. Can you just talk about how we should expect that to trend?

David J. Frear
Senior EVP & CFO

I'm pretty sure subscriber acquisition cost and SAC per install is in the materials. I guess we didn't comment on it. SAC per install came down, let's say it was something like $4 year-on-year, and it's really strong performances. The pen rate shortfall is a little disappointing for us, but it is a short-term thing. And so -- but if -- the good side about having lower installs is that you end up with lower SAC, right? But the unit costs continued to be down. And my guess is, if it's not in the press release, you'll see it in the Q. The -- on the monetization side at Pandora, what we're -- what actually we're finding as we get to learn that business, we're pleasantly surprised to meet the -- they have a really talented, scaled digital ad sales team. And they aggressively manage the inventory and the ad capacity. They are very, very aggressive in new product development from an ad format perspective. And the team has done a fantastic job of increasing yield on what they do sell. And as you move into points of the year -- like the first quarter is a soft time of the year for the ad business. And so it's especially gratifying to see them get this kind of monetization improvement in a soft period in the year. And it's like a lot of other things. These guys just go in and they slug it out in the field every month. And they go out to hunt, and they're tough on pricing and tough on sell-through. So quite honestly, Vijay, it is just good nuts-and-bolts execution by the ad sales team.

Operator

Our next question will come from Brandon Ross with BTIG.

Brandon A Ross
BTIG, LLC, Research Division

A couple. You mentioned you had restructured some of the bad Pandora label deals with minimum guarantees. Where do you stand in reworking those deals overall? And maybe if you could tell us how big you think the margin benefit could be there. And then I have another one.

James E. Meyer

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CEO & Director

So David will handle that, but I just want to clarify. I don't think we ever called them bad deals, okay? I mean -- and those conversations have been ongoing for months, just to be clear.

David J. Frear
Senior EVP & CFO

And in the results we spoke about today was actually -- those deals were recut by the prior management team. I think the Pandora executive team and the music industry has had a pretty good, healthy relationship in the last few years. It was a little rocky a few years back, but they're through that period. And so really it was something that Roger and Naveen delivered.

Brandon A Ross
BTIG, LLC, Research Division

Great. And then maybe a follow-up on the revenue synergies question. Can you just speak more specifically how big you think the opportunity is for Pandora to drive Sirius subscribers? And what you could do, in addition to adding a Pandora NOW to Sirius, to sort of upsell subscribers from Pandora to Sirius?

James E. Meyer
CEO & Director

So I mean I think I was quite explicit on costs synergies, and the reason is because I feel like David and I are pretty confident we understand where those numbers are going. And I don't like to say anything on these calls unless I'm quite confident that we know where we're going. So I'm not going to give you an answer today on revenue because I'm not confident enough to give you that answer. What I am confident in is I see endless possibilities, and they just keep continuing to develop. And so we're going to test a whole bunch of things, my guess is for a long, long time, and evolve into those revenue synergies that we can get. I will tell you I think it makes infinite sense that inevitably we ought to be able to go fish in a pool of 100 million active free listeners and be able to pull out of that people who are willing to pay and put them into paid products that yield the best margin for our shareholders.

Second, on the flip side, we're going to run, I don't know -- god willing, a great auto company -- I mean, a great auto economy. We're going to run 24 million trials, or whatever the number might be, in 2019. We're going to be thrilled if we monetize 1/3 of that or slightly higher than that between used and new. That other 2/3, we ought to be figuring out how to get those people to go into a funnel that we still benefit from, particularly our free funnels. And so I really like the fact that we have the ability now to go between both, which are gigantic. Both are gigantic funnels, okay, if you think about it, in the United States. How we're going to optimize that is going to be developed over time. And frankly, I think it's one of the funnest puzzles we've worked on.

Scott A. Greenstein
President and Chief Content Officer

Yes. Jim, I got it. One other thing just on the Pandora-to-Sirius path, just one example, but you can multiply this into the thousands or ten thousands. Someone is listening or feeds a Garth Brooks channel, for instance, on Pandora. That is clearly someone who has an affinity to Garth. Right now, there's interstitials and other things playing on Pandora that -- whether they're 30 seconds or a minute before a different song, that highlight that there's a Garth Brooks channel on SiriusXM. So you can see where some may be perfectly happy, and we're okay with that at Pandora. And others that are wanting a deeper fan experience will be able to go and subscribe to Sirius. And you can multiply that in any area. Then you have comedy. There will ultimately be all forms of talk and sports clips. And I think there will be a path back and forth, fluidity going back on the content as sort of the hinge between the two. So as Jim said, it's an exciting path to look down. We're definitely down it.

James E. Meyer
CEO & Director

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Thanks, Scott.

Operator

Now we will hear from Jessica Reif Ehrlich with Bank of America Merrill Lynch.

Jessica Jean Reif Ehrlich
BofA Merrill Lynch, Research Division

Actually, my first question, Scott sort of just addressed, but I'll ask anyway. Turning around the decline in Pandora MAU seems to be a key focus, rightly a key focus. And you're increasing content. And I'm just wondering about marketing. Scott just mentioned the internal channels or the cross-promotion. What else are you doing to drive listeners, new listeners, or listeners back to Pandora? Then I have a couple of others.

James E. Meyer
CEO & Director

So look, I think, Jessica, we're going to do what we've always done in that particular area, which is use the appeal of our content and promote around that to both the audiences that we've captured as well as audiences that haven't come into one of our funnels. Quite candidly, when you look at the size now of the Pandora funnel, meaning users that are in it or users that have tried it, and you look at the size of the SiriusXM funnel and then you look at where that's going with new and used cars, the opportunity just within those two is so big. I don't know that we have to worry that much about going outside of those two, but we will. And we'll do it in association with our content launches, promoting alongside our artists and promoting alongside our content as it's introduced. I will also tell you, though, the most effective marketing between those 2 platforms is on air and in-app and within our communications to our trialers and our customers in general. And there you will see an acute marketing focus as we move forward.

Jessica Jean Reif Ehrlich
BofA Merrill Lynch, Research Division

Great. And then just two more. The -- on the podcast side, the market seems to be getting crowded. Everybody is announcing podcasts like almost every day. Can you talk about monetization and what you're doing to stand out, what you're doing differently or what you think you're doing to be different and where you see the long-term growth of the podcast market?

James E. Meyer
CEO & Director

So I'll take this. And then Scott, you can jump in if you want in a minute. But number one, Jessica, I don't think anybody has figured out the monetization question yet in podcasting, so I'm not going to be so brazen to tell you we know the answer either. What I will tell you, the heart of the answer is going to lie in what do people listen to and how long do they listen. And once you solve that, I think the monetization can -- will follow. We certainly have always believed in spoken word. It's funny, in my mind -- and I'll give an example of one particular talent we've spent a lot of time with. We asked that individual, a big-time talent, if they were interested in doing a radio show. They kind of hemmed and hawed about the time commitment. We asked that individual, "Would you like to do a podcast?" They jumped all over it and want to do it. And so I believe, in my mind, podcasting isn't a revolution. It's just an evolution, in my mind, of how spoken word is being delivered to customers in ways that they -- another way that they may want to enjoy that content. Scott, do you want to add anything here?

Scott A. Greenstein
President and Chief Content Officer

Jessica, for me, the most exciting part and where I think the podcasting thing hasn't even been started, even though you're seeing a lot of announcements, is -- when you look back at the early days of satellite radio, you had FM largely on music, AM on talk. We've looked at that landscape as a company and said, "Wait a second. There's no real comedy in here. There's not 24/7 league channels; big brands like the TV channels like the Fox, CNN, MSNBC; brands you could create out of whole cloth from magazines

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and other brands." And that sort of was the evolution. When you look at the digital landscape, Pandora included, they've been, if not exclusively, virtually all music. So podcasting comes along, and yes, people are jumping on it, but the big brands [indiscernible] and many, many big personalities that are perfect for podcasting due to their time schedule or their other activities in the media business are not in that. Those brands and the bigger names are going to look for quality production, experience, real depth in audio production. That's where you can't erase our 10, 12 years as a company of doing this and being at the forefront of this. So while there's a lot of announcements, what we're most excited about is what can come in going forward that's sitting on the sidelines, waiting for this to evolve both creatively and monetarily. So we think [we're well positioned].

James E. Meyer
CEO & Director

Yes. And I -- thanks, Scott. And Jessica, one other point on it. I think we're just experimenting with it now, but I've seen some stuff and my gut tells me, taking the creativity of what Scott just talked about and combining it with using some part of the genome to make search and recommendation within that Pandora world much more -- a much better experience, I think, is going to yield a very strong product. So I like what we're doing here.

Hooper Stevens
Vice President of IR & Finance

Operator, can we -- please go ahead, Jessica.

Jessica Jean Reif Ehrlich
BofA Merrill Lynch, Research Division

Okay. And then -- [indiscernible] one for David. Sorry, Hooper, but just on the buybacks. First quarter was -- seems well ahead of your $2 billion pace. Can you talk to me, is there any comment you can give on full year outlook?

David J. Frear
Senior EVP & CFO

Jessica, the only thing I can tell you is we think the stock is a value at this level and so we bought it and bought it aggressively.

Operator

Our next and final question will come from Zack Silver with B. Riley FBR.

Zachary Alan Silver
B. Riley FBR, Inc., Research Division

Okay. Great. I wanted to just touch on the Amazon announcement around a free ad-based service on the Echo. Just curious if this affects what you have characterized in the past as an expanding relationship with Amazon. And if it doesn't, then what maybe is next in store with that relationship?

James E. Meyer
CEO & Director

Well -- so this is Jim. I'll comment a couple of things. Number one, the space -- look, the space has always been jammed with competition. This is just one -- another step of competition, and so it doesn't surprise me at all that it's occurred. I'll also tell you I spend a lot of time personally with Amazon. It's a complex company, and so I don't fully understand their different motivations. What I do know is that we want customers to experience our products in an easy-to-use environment in the car, but now just as importantly in the home. And we'll continue to make that service available as much as we can, as easy as we can on various home devices over the next several months.

Zachary Alan Silver
B. Riley FBR, Inc., Research Division

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Got it. And then one more, if I -- yes, just one more, if I could, just on the Essential plan. I know it's early days, but how big of a market do you think that this represents? And then do you think that the unit economics of the Essential subs are significantly different than your legacy subs?

James E. Meyer
CEO & Director

Well, I -- number one, I think we wouldn't have introduced the product if we didn't think it was a profitable -- good, profitable product for us. I don't know. I'm excited about getting out there and getting this price point going. It's -- this stuff still is newer to us in the stand-alone streaming area, so I'm not going to hazard a prediction yet. I've been pretty clear, though, that this is an area of focus where we want to drive subscriber growth.

David J. Frear
Senior EVP & CFO

So Zack, I'd tell you that from a profitability perspective, I mean -- we don't know how big it's going to be. But certainly from a profitability perspective, if the people who come in on that plan listen in ways consistent with other people that we have listening online, then it's, without a doubt, margin accretive to our business.

Hooper Stevens
Vice President of IR & Finance
Great. Thank you very -- thanks, everybody, for participating in today's call. We'll talk to you next quarter.

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UPDATE
December 13, 2016

Apple AirPods are now available

New Wireless Headphones Available Online Today and in Stores Beginning Next Week

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Airpods let you access Siri with just a double tap.

Apple today announced AirPods are available to order online now from Apple.com and will start delivering to customers and arriving at Apple Stores, Apple Authorized Resellers and select carriers next week.

AirPods introduce an effortless wireless listening experience packed with high-quality audio and long battery life. These magical wireless headphones use advanced technology to reinvent how we listen to music, make phone calls, enjoy TV shows and movies, play games and interact with Siri, providing a wireless audio experience not possible before.

The effortless wireless listening experience provides high-quality audio and long battery life.

With AirPods, setting up and using wireless headphones has never been easier. Just open the charging case near your iPhone and with a simple tap, AirPods are immediately set up with all the devices signed into your iCloud account, including your Apple Watch, iPad and Mac. Advanced sensors detect when AirPods are in your ear and can automatically play and pause your music. Double tapping on AirPods activates Siri, allowing you to access your favorite personal assistant to select and control your music, get directions, make and receive calls or perform any other Siri task.

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iPhone recognizes when AirPods are near, making setup as simple as a tap.

This revolutionary experience is enabled by the new ultra-low power Apple W1 chip, which enables AirPods to deliver high-quality audio and industry-leading battery life in a completely wireless design. AirPods deliver up to five hours of listening time on one charge while the custom-designed charging case holds additional charges for an industry-leading total of more than 24 hours of listening time, ensuring AirPods are charged and ready to go whenever you are.

Pricing and Availability

Apple-Designed Wireless AirPods
Including charging case for **$159 (US)**.
Available today from Apple.com and will start delivering to customers and arriving at Apple Stores, Apple Authorized Resellers and select carriers next week.
AirPods will be shipping in limited quantities at launch and customers are encouraged to check online for updates on availability and estimated delivery dates. Stores will receive regular AirPod shipments.
AirPods are available in more than 100 countries and territories including *Australia, Canada, China, Hong Kong, France, Germany, India, Mexico, Netherlands, Japan, UAE, the UK and the US*.
AirPods require Apple devices running the latest version of iOS 10, watchOS 3 or macOS Sierra.

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Photos of Apple-designed AirPods
Download all images

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MEDIA

Sirius XM's Deal to Buy Pandora Is a Win for Legacy Media

By Alex Eule Sept. 25, 2018 6:00 am ET

Robin Marchant/Getty Images for SiriusXM

Sirius XM stock fell Monday on the news of its deal to acquire Pandora, but don't underestimate the significance of the transaction. Several years ago, it was Pandora and the threat of digital music that had investors doubting the future of Sirius and its stubborn subscription model.

In November 2013, with Sirius shares trading below $4, I wrote a cover story for *Barron's* suggesting there was still upside in the stock, despite the company's reliance on fixed infrastructure and traditional radio units. Sirius XM stock is up 70% since then. Pandora, meanwhile, has shed 70% of its value, based on the deal price of $9 per Pandora share.

It turns out that costly physical infrastructure and traditional linear programming don't always doom media companies in their battle against digital upstarts. That's a particularly relevant point today as Comcast bulks up to continue its battle against Netflix .

Sirius has a sticky business model, in which car buyers predictably turn on the Sirius XM radios that come pre-installed in new cars. We're at the point where a growing number of used cars are being re-purchased with those same Sirius radios still installed, making used-car buyers a growing market for Sirius.

But a satellite radio subscription still can't match the ease of use or cost of Pandora's smartphone app, which ranges from free to $10 a month for unlimited music.

A Sirius subscription starts at $11 a month and goes up to $21.

In an investor presentation on Monday, Sirius noted that Pandora expands the company's presence "beyond the vehicle," while diversifying Sirius' revenue stream by adding the country's "largest ad-supported digital audio offering."

Sirius sees opportunity for cross-promotion between its 36 million paying subscribers and Pandora's 70 million active listeners. The bulk of Pandora's users are non-paying customers, but the company does have about six million paying subscribers. Sirius can now try to sell its subscription package into Pandora's large user base.

One problem that Pandora won't solve: Sirius is facing big changes in the way it pays for music, thanks to legislation known as the Music Modernization Act, which is about to be approved by Congress. Much of the industry has agreed on the new framework for paying artists, but Sirius has objected to the bill, until recently at least.

A version of this article first appeared in Review & Preview, a daily email from Barron's. Sign up here and every evening we'll review the news that moved markets during the day and look ahead to what it means for your portfolio in the morning.

Write to Alex Eule at alex.eule@barrons.com

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SiriusXM

Announces Merger Agreement with Pandora

SiriusXM
pandora

Investor Deck | September 24, 2018

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Call Participants

Jim Meyer

Chief Executive Officer SiriusXM

David Frear

Chief Financial Officer SiriusXM

Roger Lynch

Chief Executive Officer Pandora

Naveen Chopra

Chief Financial Officer Pandora

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Important Information

This communication is being made in respect of the proposed merger transaction involving Sirius XM Holdings Inc. ("Sirius") and Pandora Media, Inc. ("Pandora"). Sirius intends to file a registration statement on Form S-4 with the SEC, which will include a proxy statement of Pandora and a prospectus of Sirius and each party will file other documents regarding the proposed transaction with the SEC. Any definitive proxy statement(s)/prospectus(es) will also be sent to the stockholders of Pandora seeking any required stockholder approval. This communication does not constitute an offer to sell or the solicitation of an offer to buy any securities or a solicitation of any vote or approval. **Before making any voting or investment decision, investors and stockholders of Pandora are urged to carefully read the entire registration statement(s) and proxy statement(s)/prospectus(es), when they become available, and any other relevant documents filed with the SEC, as well as any amendments or supplements to these documents, because they will contain important information about the proposed transaction.** The documents filed by Sirius and Pandora with the SEC may be obtained free of charge at the SEC's website at www.sec.gov. In addition, the documents filed by Sirius may be obtained free of charge from Sirius at www.siriusxm.com, and the documents filed by Pandora may be obtained free of charge from Pandora at www.Pandora.com. Alternatively, these documents, when available, can be obtained free of charge from Sirius upon written request to Sirius, 1290 Avenue of the Americas, 11th Floor, New York, New York 10104, Attn: Investor Relations, or by calling (212) 584-5100, or from Pandora upon written request to Pandora, 2101 Webster Street, Suite 1650, Oakland, California 94612 Attn: Investor Relations or by calling (510) 451-4100.

Sirius and Pandora and certain of their respective directors and executive officers may be deemed to be participants in the solicitation of proxies from the stockholders of Pandora in favor of the approval of the merger. Information regarding Sirius' directors and executive officers is contained in Sirius' Annual Report on Form 10-K for the year ended December 31, 2017, its Quarterly Reports on Form 10-Q for the quarterly periods ended March 31, 2018 and June 30, 2018 and its Proxy Statement on Schedule 14A, dated April 23, 2018, which are filed with the SEC. Information regarding Pandora's directors and executive officers is contained in Pandora's Annual Report on Form 10-K for the year ended December 31, 2017, its Quarterly Reports on Form 10-Q for the quarterly periods ended March 31, 2018 and June 30, 2018 and its Proxy Statement on Schedule 14A, dated April 10, 2018, which are filed with the SEC. Additional information regarding the interests of those participants and other persons who may be deemed participants in the transaction may be obtained by reading the registration statement(s) and the proxy statement(s)/prospectus(es) when they become available. Free copies of these documents may be obtained as described in the preceding paragraph.

Forward Looking Statements

This communication contains "forward-looking statements" within the meaning of the Private Securities Litigation Reform Act of 1995. These forward-looking statements include, but are not limited to, statements about the proposed acquisition of Pandora by Sirius and other matters that are not historical facts and other statements identified by words such as "will likely result," "are expected to," "will continue," "is anticipated," "estimated," "believe," "intend," "plan," "projection," "outlook" or words of similar meaning. Actual results and the timing of events may differ materially from the results anticipated in these forward-looking statements.

In addition to factors previously disclosed in Sirius' and Pandora's reports filed with the SEC and those identified elsewhere in this communication, the following factors, among others, could cause actual results and the timing of events to differ materially from the anticipated results or other expectations expressed in the forward-looking statements: ability to meet the closing conditions to the merger, including the approval of Pandora's stockholders on the expected terms and schedule and the risk that regulatory approvals required for the merger are not obtained or are obtained subject to conditions that are not anticipated; delay in closing the merger; failure to realize the expected benefits from the proposed transaction; risks related to disruption of management time from ongoing business operations due to the proposed transaction; Sirius' or Pandora's substantial competition, which is likely to increase over time; Sirius' or Pandora's ability to retain subscribers or increase the number of subscribers is uncertain; Sirius' or Pandora's ability to profitably attract and retain subscribers as Sirius' marketing efforts reach more price-sensitive consumers is uncertain; failing to protect the security of the personal information about Sirius' or Pandora's customers; interference to Sirius' or Pandora's service from wireless operations; we and Pandora engage in substantial marketing efforts and the continued effectiveness of those efforts are an important part of Sirius' and Pandora's business; consumer protection laws and their enforcement; Sirius' or Pandora's failure to realize benefits of acquisitions or other strategic initiatives; unfavorable outcomes of pending or future litigation; the market for music rights, which is changing and subject to uncertainties; Sirius' dependence upon the auto industry; general economic conditions; existing or future government laws and regulations could harm Sirius' or Pandora's business; failure of Sirius' satellites would significantly damage Sirius' business; the interruption or failure of Sirius' or Pandora's information technology and communications systems; rapid technological and industry changes; failure of third parties to perform; Sirius' failure to comply with FCC requirements; modifications to Sirius' or Pandora's business plan; Sirius' or Pandora's indebtedness; Sirius' studios, terrestrial repeater networks, satellite uplink facilities or Sirius' or Pandora's other ground facilities could be damaged by natural catastrophes or terrorist activities; Sirius' principal stockholder has significant influence over Sirius' affairs and over actions requiring stockholder approval and its interests may differ from interests of other holders of Sirius' common stock; we are a "controlled company" within the meaning of the NASDAQ listing rules; impairment of Sirius' or Pandora's business by third-party intellectual property rights; changes to Sirius' dividend policies which could occur at any time; and risks related to the inability to realize cost savings or revenues or to implement integration plans and other consequences associated with mergers, acquisitions and divestitures. The information set forth herein speaks only as of the date hereof, and we disclaim any intention or obligation to update any forward looking statements as a result of developments occurring after the date of this communication.

Annualized, pro forma, projected and estimated numbers are used for illustrative purpose only, are not forecasts and may not reflect actual results.

Strategic Rationale

Combination creates the **world's largest audio entertainment company** with more than **$7B in revenue**, a $41B enterprise value, low leverage and strong cash flow

- Builds on SiriusXM's position as the **leader in subscription radio** and **critically-acclaimed curation** with the addition of the **largest U.S. audio streaming platform**
- Enables SiriusXM to significantly expand its presence **beyond the vehicle** into the complementary in-home & mobile entertainment area
- **Diversifies revenue** streams with the U.S.'s largest ad-supported digital audio offering and enables continued expansion in North America
- Creates a strong **promotional platform** for emerging and established artists to reach and grow their fan base

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Growth Opportunities

- Leveraging **SiriusXM**'s exclusive content and programming with **Pandora**'s free ad-supported and subscription tiers to create **unique audio packages**
- Utilizing SiriusXM's extensive automotive relationships to drive Pandora's **in-car distribution**
- **Cross-promotion** opportunities between SiriusXM's base of **36M**+ subscribers across North America & **23M**+ annual trial listeners and Pandora's approximately **70M**+ active listeners
- **Combining investments** in content & technology and expanded monetization capabilities across both ad-supported and subscription services **in and out of the vehicle**
- 360L deployments combined with Pandora's digital & ad capabilities to **drive increased share of in-car ear & wallet** vs other platforms

Transaction Overview

Transaction Consideration

- Pandora stockholders to receive 100% stock consideration at a fixed exchange ratio of **1.44** shares of SiriusXM for each share of Pandora
  - Equivalent to $**10.14** per share, representing a **13.8% premium** based on the 30-day VWAP of both companies' shares
- Transaction valued at approximately $**3.5 billion**, including assumption of debt
- Pandora stockholders to own **8.6%** of the pro forma company on a fully diluted basis

Expected Closing

- Expected to close in **Q1 2019** subject to Pandora stockholders approval, antitrust approvals and customary closing conditions

Adding Largest U.S. Audio Streaming Platform

SiriusXM pandora

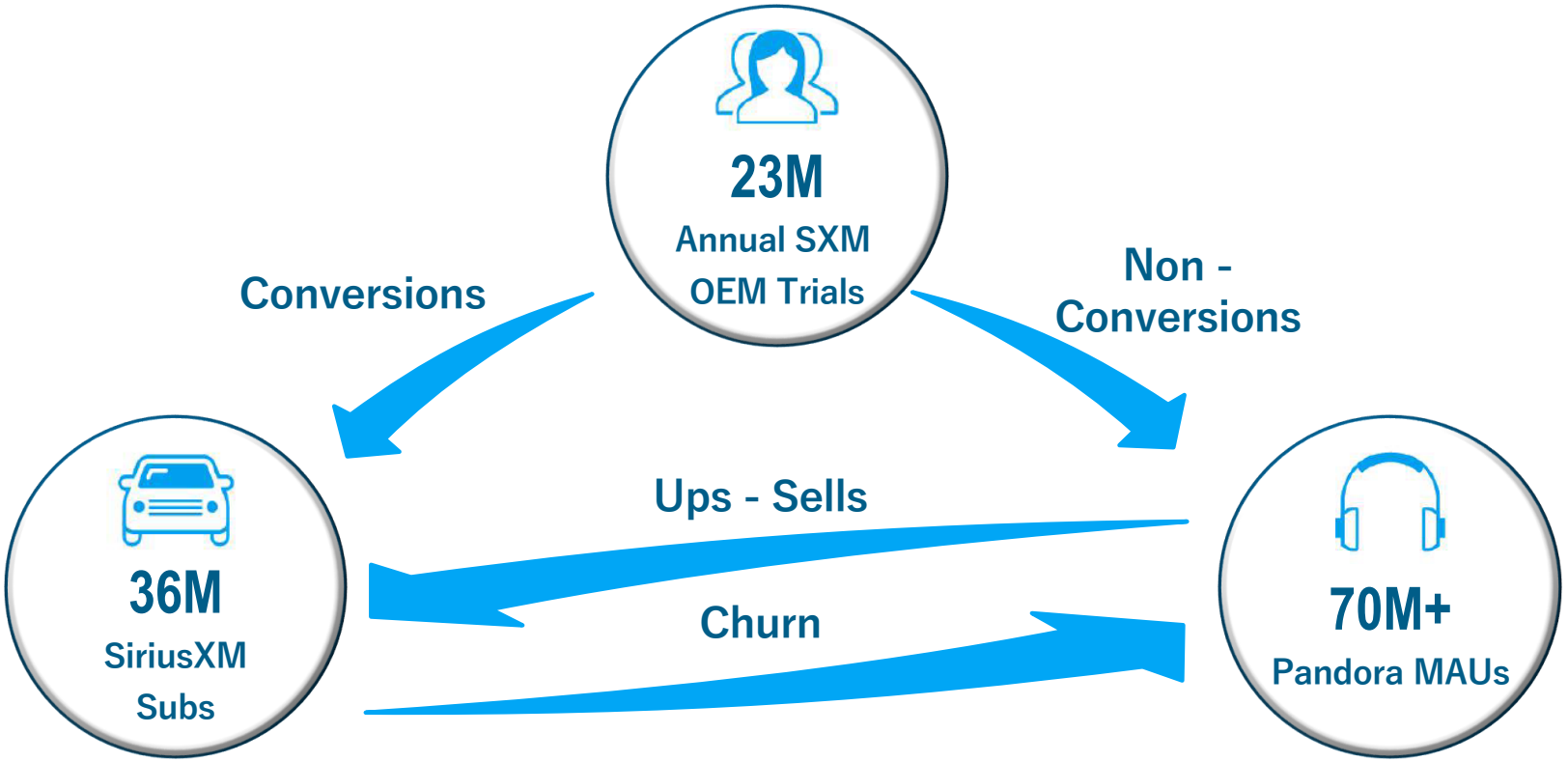
- **65M** ad-supported listeners and **6M** subscribers
- Pandora's **Music Genome** provides billions of data points for personalized recommendations
- Tiered offering of **ad-supported**, **Plus** and **Premium plans**
- Industry-leading ability to monetize digital audio including established **direct sales force**, targeting **data**, **AdsWizz** platform and **programmatic audio & video** ads
- Recent deals to expand distribution & reach (T-Mobile, Snap and AT&T) and arrangements that allow users to enjoy their **favorite content anytime, anywhere**
- Investments in **podcast offerings** that will bring hundreds of publishers to a scaled audience, leveraging the strength of Pandora's Genome capabilities

70M+
MAU's

24HRS
Avg Listening hrs/mo

$1B+
Ad Revenue

A Compelling Ecosystem



Benefits to Pandora Stockholders

- Builds on Pandora's **strong operational momentum** over last year
- Structure allows shareholder **participation in future upside**
- Increase in **scale**, industry **expertise** and **financial resources to drive growth** & innovation
- Ability to **differentiate product and content** offering
- Sirius XM provides a strategic **advantage in vehicles**
- Opportunity to **accelerate advertising** business and increased **expertise in subscriptions**

Benefits to Consumers, Artists & Stockholders

Consumers:

- Current offerings to remain in place
- Opportunity for **new packages** with enhanced features
- Ability to listen to more **music and non-music content** on any platform, anywhere

Artists:

- **Growth and scale** to reach more fans
- Significant & growing **royalty stream** to artists
- Extensive **user preference data**

Stockholders:

- Combined listener base spanning **65M+** ad-supported listeners and **40M+** combined subscribers
- **Operational excellence** in subscription and advertising businesses
- **Strong capitalization supports investments in content, new products and capital returns to stockholders**

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Search our help site

Premium Access

Premium access allows listeners to enjoy playlists, albums, songs and other content on-demand, without paying for a subscription. Search and play your favorite content: what you want, when you want it.

How does Premium access work?
How do I get Premium access?
How long does Premium access last?
Will I be charged for Premium access?
Why am I encountering a temporary limit?
What happens to my playlists after Premium access is over?

How does Premium access work?

After interacting with an ad, you'll receive Premium access.

Once activated, you will be able to enjoy the following Pandora Premium features:

- Play songs or albums on-demand
- Create custom playlists
- Access higher quality audio
- Receive ad-free music, additional skips and replays

Because this is funded by advertisements, your account will return to your regular service automatically at the end of the access period and you won't be charged any Premium fees.

Additionally, this is purely optional; you will have the option to decline.

How do I get Premium access?

There are two ways to unlock Premium access:

- Click a link shared through Pandora emails, social posts, push notifications or messages from our ad partners
- Search our library for a song or album, and click play.

Choosing either of these methods will trigger a short advertisement, after which you can enjoy your on-demand content.

Note: If you're initiating a Premium access from a web browser, please keep in mind that you'll need to disable your ad blocker in order to engage with the ad to enjoy on-demand content.

How long does Premium access last?

The average length may fluctuate. However, we'll automatically save your on-demand music collection for your next experience.

Will I be charged for Premium access?

No.

If you do decide to initiate Premium access, rest assured that you won't be billed. You do not need to cancel anything; unlike our subscriptions, no credit card or code is required.

Because the additional cost of these sessions are funded by advertisements, your account will return to your regular service automatically. You can initiate them without worrying about being charged for Premium.

Why am I hitting a temporary limit?

Due to licensing restrictions, frequent users of Premium access may experience limitations when attempting to open a new session. These limits are temporary and you'll be able to initiate Premium access again after some time has passed.

What happens to my playlists after Premium access is over?

We'll keep any playlists and stations for whenever you're ready to initiate Premium access again in the future.

Did this article resolve your issue?
Yes No

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English (US)

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Upgrade to Pandora Plus or Pandora Premium

Pandora offers three types of subscriptions.

Pandora Plus (http://www.pandora.com/upgrade) is $4.99 USD/month or $54.89 USD/year (plus tax where applicable).
Pandora Premium (https://www.pandora.com/upgrade/premium) is $9.99 USD/month or $109.89 USD/year (plus tax where applicable), unless you qualify for a **Student or Military discount. (https://help.pandora.com/s/article/Pandora-Premium-Student-Military-plans)**
Pandora Premium Family (https://www.pandora.com/upgrade/premium#family-plan) is $14.99 USD monthly or $164.89 annually.

- *Annual Subscriptions are available for purchase from the Pandora website or Best Buy.*
- *Pandora Premium is only available from certain subscription providers.*
- *Student and Military discounts and the Pandora Premium Family plan are available for purchase ONLY from the Pandora website.*

To learn how to upgrade your account to Pandora Plus, Pandora Premium, or Pandora Premium Family, choose one of the options below:

Upgrade through the Website
Upgrade through the iOS App Store
Upgrade through Google Play
Upgrade through Amazon Appstore
Upgrade through Best Buy
Upgrade through Roku
Upgrade through AT&T
Upgrade through Sam's Club

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Upgrade through the Website

To upgrade follow the instructions below:

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1. Visit **www.pandora.com/upgrade (https://www.pandora.com/upgrade).**
2. Select the subscription plan you prefer.
3. Choose your method of payment.
   - If you choose to pay by credit card, enter your credit card information on the Payment Information page.
   - If you choose to pay by PayPal you will be redirected to their site to complete the transaction. To learn more about PayPal or to sign up for a PayPal account, please visit their website **here (https://www.paypal.com/home)**.
4. Agree to the **Pandora Subscription Terms (http://pandora.com/legal/subscription)** and submit your payment.

Your subscription will be set to auto-renew by default, but this setting can be changed anytime after submitting your payment.

To learn how to make changes to your subscription plan, **click here (http://help.pandora.com/s/article/Change-your-Payment-Information-1519949295577).**

Upgrade through iOS App Store

Pandora Plus is $4.99 USD/month and Pandora Premium is $12.99 USD/month when purchased through Apple. Taxes may also apply to these fees depending on local tax laws in your area.

Annual subscriptions and Pandora Premium Family Plan are not available for purchase through Apple.

To upgrade through the Pandora App on your iOS Device:

1. Tap the **Profile** icon.
2. Select the Settings gear from the top right corner, and then **Upgrade**.
3. Agree to the Pandora Subscription terms of service to submit your payment.

Your subscription will be set to auto-renew by default through Apple, but this can be changed at anytime after submitting your payment.

To learn how to make changes to your subscription plan, **click here** (http://help.pandora.com/s/article/Change-your-Payment-Information-1519949295577).

Upgrade through Google Play

Pandora Plus is $4.99 USD/month and Pandora Premium is $9.99 USD/month when purchased through the Google Play Store on an Android device. Taxes may also apply to these fees depending on local tax laws in your area.

Annual subscriptions and Pandora Premium Family Plan are not available for purchase through Google Play.

You can upgrade through the Pandora app on Android by following these steps:

1. Tap the **Profile** icon.
2. Select the **Settings** gear from the top right corner, and then **Upgrade**. You will then be taken to the Google Play payment page.
3. Check the box stating that you agree to the payments for Google Play Terms of Service.
4. Confirm the purchase by selecting Accept & Subscribe. *Note: If you* *d to enter that code after selecting* ***Accept & Subscribe***.

Your subscription will be set to auto-renew by default, but this can be c n how to make changes to your subscription plan, click **here (https://hel m Information-1519949295577).**

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iptio Upgrade through Amazon Appstore (/s/topic/0TO1W000000aJ1WAA2) Account (/s/topic/0TO1W000000aJ9hWAE) Using Pandora (/s/to

Pandora Plus is $4.99 USD/month when purchased through the Amazon Appstore on an Android device. Taxes may also apply to these fees depending on local tax laws in your area.

Annual subscriptions, Pandora Premium and Pandora Premium Family Plan are not available for purchase through Amazon Appstore.

You can upgrade through the Amazon Appstore by following these steps:

1. Open the Pandora app and sign in.
2. Tap the menu key on your device.
3. Select **Preferences**.
4. Select **Upgrade to Pandora Plus**.
5. Then select **Subscribe**.

Your subscription will be set to auto-renew by default through the Amazon Appstore, but this can be changed at anytime after submitting your payment. To learn how to make changes to your subscription plan, click **here (https://help.pandora.com/s/article/Change-your-Payment-Information-1519949295577).**

Upgrade through Best Buy

Pandora has partnered with Best Buy as an official music provider.

Best Buy customers can purchase Pandora Plus or Pandora Premium monthly or yearly subscriptions at **BestBuy.com** (https://www.bestbuy.com/) or at Best Buy retail stores.

To purchase a Pandora subscription through Best Buy online:

1. Choose a **Pandora monthly or annual subscription on BestBuy.com (https://www.bestbuy.com/)**.
2. Add the Pandora plan of your choice to cart and complete the online checkout process.
3. You will receive an activation email from Best Buy with instructions on how to activate your Pandora subscription.
4. Start streaming on all your devices.

To purchase a Pandora subscription through Best Buy stores:

1. Purchase a Pandora subscription card at Best Buy retail stores and provide your name, phone number, email address, choice of plan, and payment to the Best Buy cashier to complete checkout.
2. You will receive an activation email from Best Buy with instructions on how to activate your Pandora subscription.
3. Start streaming on all your devices.

You can manage your subscription preferences from the **Plans and Subscriptions (https://www.bestbuy.com/services/planlist)** page in your **BestBuy.com (http://bestbuy.com/)** account (which you can be created based on the e-mail address you provided at checkout) or by calling 1-888-BEST BUY (1-888-237-8289).

Upgrade through Roku

You can upgrade to Pandora Plus or Pandora Premium directly from yo ont.
Pandora Premium is $9.99 USD monthly (taxes may apply depending on your area).

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Annual subscriptions and Pandora Premium Family Plan subscriptions are not available for purchase through Roku.

To upgrade from your Roku device, navigate to the **Upgrade** icon in the upper right corner of the Pandora app, and select your preferred subscription option.

By default, your subscription through Roku will be set to auto-renew. This can be changed at any time. To learn how to make changes to your subscription plan, **click here** (https://help.pandora.com/s/article/Change-your-Payment-Information-1519949295577).

Upgrade through AT&T Unlimited Plus

Pandora has partnered with AT&T as an official music provider for their Unlimited Plus entertainment bundle.

AT&T Unlimited Plus customers can select Pandora Premium as a free subscription add-on.

To redeem this offer follow these steps:

1. Go to **attwatchtv.com (https://attwatchtv.com/)**.
2. Click on the gear icon on the top right corner.
3. Click on the row that says **Package** (should state "Pandora + WatchTV" or "[Product] + WatchTV")
4. Click on **Manage my account**
5. Scroll down and click on another card
6. Re-click on **Pandora** and then click **Confirm**
7. Click on **Activate Pandora**, then sign in to the **free** Pandora account you want to upgrade.

Since this promotion is billed through AT&T, you'll need to **contact their support team (https://www.attwatchtv.com/faqs/)** if you have additional questions or are having trouble redeeming this offer.

Upgrade through Sam's Club

Pandora has partnered with Sam's Club as an official music provider.

Sam's Club members can purchase Pandora Plus or Pandora Premium subscriptions at **SamsClub.com (http://samsclub.com/).**

You can follow these steps to purchase your Pandora subscription through Sam's Club:

1. Go to **SamsClub.com (http://samsclub.com/).**
2. Sign in to your account.
3. Find the **Pandora subscription (https://www.samsclub.com/p/pandora-subscription-service/prod24490228)**, choose your plan options and **Add to cart.**

You can manage your subscription preferences from **your account here. (https://www.samsclub.com/sams/account/signin/login.jsp?redirectURL=%2Faccount%2Fsubscriptions)**

Since this promotion is billed through Sam's Club, you can visit their **Help Center (https://urldefense.proofpoint.com/v2/url?u=http-3A__help.samsclub.com_&d=DwMGaQ&c=gFTBenQ7Vj71sUi1A4CkFnmPzqwDo07QsHw-JRepxyw&r=RSK3OZSxcv3IHYDvIWFSLv3l2oxq7RYZJ9Thilcj858&n ı7j2eV_XOcVI &s=tbGugdxQYGFbsVWv-bwQWYwwB0Vc6K0V46E_xKdK3PY&e=)**

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Yes No

English (US)

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Terms (https://www.pandora.com/legal) Community (https://community.pandora.com)

Ad Preferences (https://www.pandora.com/advertising/preferences)

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Pandora Reports Q1 2018 Financial Results

May 03, 2018

Year-Over-Year Revenue Growth Accelerated in Q1

- Q1 Revenue was $319.2 million, growing 12% year-over-year excluding ANZ & Ticketfly
- Q1 Subscription revenue was $104.7 million, growing 63% year-over-year excluding ANZ & Ticketfly
- Ad RPM hit an all-time Q1 high of $55.52, growing 9% year-over-year
- Total subscribers were 5.63 million, growing 19% year-over-year
- Q1 Revenue and Adjusted EBITDA significantly exceeded our forecast

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- Announced acquisition of AdsWizz, creating the largest digital audio advertising ecosystem globally

OAKLAND, Calif.--(BUSINESS WIRE)-- Pandora (NYSE: P) today announced financial results for the first quarter ended March 31, 2018.

“Music streaming and digital audio continue to see massive growth, and this quarter we took key steps to position Pandora to capture this significant opportunity,” said Roger Lynch, CEO of Pandora. “We improved audience metrics—in part by increasing usage of Premium Access, which gives ad-supported listeners the ability to enjoy Pandora Premium after viewing a 15-second ad. We also accelerated our ad-tech roadmap with the acquisition of AdsWizz, and launched exciting new product features like personalized playlists. Looking ahead, Pandora is exactly where we want to be: at the center of a growing market with huge potential.”

First Quarter 2018 Financial Results & Highlights

Revenue: For the first quarter of 2018, total consolidated revenue was $319.2 million, an approximate 12% year-over-year increase compared to the year-ago quarter, excluding Australia, New Zealand and Ticketfly. This included $214.6 million in advertising revenue and $104.7 million in subscription revenue. We discontinued our service in Australia and New Zealand on July 31, 2017, and Ticketfly was sold to Eventbrite on September 1, 2017.

GAAP Net Loss and Adjusted EBITDA: For the first quarter of 2018, GAAP net loss was $131.7 million compared to a net loss of $132.3 million in the same quarter last year. Adjusted EBITDA was a loss of $73.3 million, compared to a loss of $71.3 million in the same quarter last year.

Cash and Investments: For the first quarter of 2018, the Company ended with $544.4 million in cash and investments, compared to $500.8 million at the end of the prior quarter.

Strategic Acquisition: Pandora announced the acquisition of AdsWizz, signaling a clear acceleration of our ad tech capabilities, allowing us to transition from the largest ad supported digital audio publisher to the largest ad supported digital audio platform. AdsWizz has customers in 39 countries, and offers a full stack of tools and services ranging from programmatic audio on both the demand and supply sides to ad serving technology to ROI measurement to podcast tools and self-serve capabilities.

Product & Partnership Launches: Premium Access, which has been used by approximately 13 million listeners to date, continues to showcase the full capabilities of our premiere subscription product, for free, following a view of a 15-second ad. The Company additionally launched Personalized Soundtracks, which provide unique playlists tailored for each listener and are powered by the Music Genome Project—one of the richest data-sets of music information in the world.

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Pandora also continued to expand its footprint, launching Pandora Premium on Amazon Fire TV, Fitbit Versa and on the web in the first quarter. Additionally, Pandora announced a partnership with leading smart link aggregator, Linkfire, to make discovering music easier for fans, while amplifying marketing efforts for labels and artists.

Listener Hours: Total listener hours were 4.96 billion for the first quarter of 2018, compared to 5.21 billion for the same period of the prior year.

Active Listeners: Active listeners were 72.3 million at the end of the first quarter of 2018.

Subscribers: Pandora Plus and Pandora Premium subscribers were 5.63 million at the end of the first quarter of 2018.

Other Information

Guidance: Guidance will be discussed during the first quarter 2018 conference call.

First Quarter 2018 Financial Results Conference Call: Pandora will host a conference call today at 2 p.m. PT/5 p.m. ET to discuss first quarter 2018 financial results with the investment community. A live webcast of the event will be available on the Pandora Investor Relations website at http://investor.pandora.com. A live domestic dial-in is available at (877) 355-0067 or (614) 999-7532 internationally. A domestic replay will be available at (855) 859-2056 or (404) 537-3406 internationally, using passcode **1771049**, and available via webcast replay until May 24, 2018.

ABOUT PANDORA

Pandora is the world's most powerful music discovery platform—a place where artists find their fans and listeners find music they love. We are driven by a single purpose: unleashing the infinite power of music by connecting artists and fans, whether through earbuds, car speakers, or anywhere fans want to experience it. Our team of highly trained musicologists analyze hundreds of attributes for each recording which powers our proprietary Music Genome Project®, delivering billions of hours of personalized music tailored to the tastes of each music listener, full of discovery, making artist/fan connections at unprecedented scale. Founded by musicians, Pandora empowers artists with valuable data and tools to help grow their careers and connect with their fans.

www.pandora.com | @pandoramusic | www.pandoraforbrands.com | @PandoraBrands | amp.pandora.com

"Safe harbor" Statement: This press release contains forward-looking statements within the meaning established by the Private Securities Litigation Reform Act of 1995, including, but not

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limited to, statements regarding expected revenue and adjusted EBITDA, and the benefits to Pandora from the acquisition of AdsWizz. These forward-looking statements are based on Pandora's current assumptions, expectations and beliefs and involve substantial risks and uncertainties that may cause results, performance or achievement to materially differ from those expressed or implied by these forward-looking statements. Factors that could cause or contribute to such differences include, but are not limited to: our operation in an emerging market and our relatively new and evolving business model; our ability to estimate revenue reserves; our ability to increase our listener base and listener hours; our ability to attract and retain advertisers; our ability to generate additional revenue on a cost-effective basis; competitive factors; our ability to continue operating under existing laws and licensing regimes; our ability to enter into and maintain commercially viable direct licenses with record labels for the right to reproduce and publicly perform sound recordings on our service; our ability to establish and maintain relationships with makers of mobile devices, consumer electronic products and automobiles; our ability to manage our growth and geographic expansion; our ability to continue to innovate and keep pace with changes in technology and our competitors; our ability to expand our operations to delivery of non-music content; our ability to protect our intellectual property; risks related to service interruptions or security breaches; and general economic conditions worldwide. Further information on these factors and other risks that may affect the business are included in filings with the Securities and Exchange Commission (SEC) from time to time, including under the heading “Risk Factors” in our most recent reports on Form 10-K and Form 10-Q.

The financial information contained in this press release should be read in conjunction with the consolidated financial statements and notes thereto included in our most recent reports on Form 10-K and Form 10-Q, each as they may be amended from time to time. Our results of operations for the current period are not necessarily indicative of our operating results for any future periods.

These documents are available online from the SEC or on the SEC Filings section of the Investor Relations section of our website at investor.pandora.com. Information on our website is not part of this release. All forward-looking statements in this press release are based on information currently available to the Company, which assumes no obligation to update these forward-looking statements in light of new information or future events.

Non-GAAP Financial Measures: To supplement our condensed consolidated financial statements, which are prepared and presented in accordance with accounting principles generally accepted in the United States ("GAAP"), the Company uses the following non-GAAP measures of financial performance: non-GAAP gross profit, non-GAAP net loss, non-GAAP basic and diluted net loss per common share, adjusted EBITDA, non-GAAP product development, non-GAAP sales and marketing and non-GAAP general and administrative. The presentation of this additional financial information is not intended to be considered in isolation from, as a substitute for, or superior to, the financial information prepared and presented in accordance with GAAP. These non-GAAP measures have limitations in that they do not reflect all of the amounts associated with our results of operations as determined in accordance with GAAP. In addition, these non-GAAP financial measures may be different from the non-GAAP financial measures used by other companies. These non-GAAP

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measures should only be used to evaluate our results of operations in conjunction with the corresponding GAAP measures. Management compensates for these limitations by reconciling these non-GAAP financial measures to the most comparable GAAP financial measures within our earnings releases.

Non-GAAP gross profit, non-GAAP net loss, non-GAAP basic and diluted net loss per common share, non-GAAP product development, non-GAAP sales and marketing and non-GAAP general and administrative differ from GAAP in that they exclude stock-based compensation expense, intangible amortization expense, amortization of non-recoupable ticketing contract advances, expense associated with the restructurings, transaction costs and loss on sales of subsidiaries. The income tax effects of non-GAAP pre-tax loss have been reflected in non-GAAP net loss and non-GAAP basic and diluted net loss per common share.

Adjusted EBITDA: Adjusted EBITDA excludes stock-based compensation expense, provision for income taxes, depreciation and intangible amortization expense, amortization of non-recoupable ticketing contract advances, other expense, expense associated with the restructurings, transaction costs and loss on sales of subsidiaries.

Stock-based Compensation Expense: consists of expenses for stock options, restricted stock units and other awards under our equity incentive plans. Stock-based compensation is included in the following cost and expense line items of our GAAP presentation: cost of revenue—other, cost of revenue—ticketing service, product development, sales and marketing and general and administrative.

Although stock-based compensation is an expense for the Company and is viewed as a form of compensation, management excludes stock-based compensation from our non-GAAP measures and adjusted EBITDA results for purposes of evaluating our continuing operating performance primarily because it is a non-cash expense not believed by management to be reflective of our core business, ongoing operating results or future outlook. In addition, the value of stock-based instruments is determined using formulas that incorporate variables, such as market volatility, that are beyond our control.

Provision for Income Taxes: consists of expense recognized related to U.S. and foreign income taxes. The Company considers its adjusted EBITDA results without these charges when evaluating its ongoing performance because it is not believed by management to be reflective of our core business, ongoing operating results or future outlook.

Depreciation and Intangible Amortization Expense: consists of non-cash charges that can be affected by the timing and magnitude of business combinations and asset purchases. Depreciation and intangible amortization expense is included in the following cost and expense line items of our GAAP presentation: cost of revenue—other, cost of revenue—ticketing service, product development, sales and marketing and general and administrative. Depreciation and intangible amortization

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expense also consists of non-cash amortization of non-recoupable amounts paid in advance to the Company's clients pursuant to ticketing agreements. Amortization of non-recoupable ticketing contract advances is included in the sales and marketing line of our GAAP presentation. Management considers its operating results without intangible amortization expense and amortization of non-recoupable ticketing contract advances when evaluating its ongoing non-GAAP performance and without depreciation, intangible amortization expense and amortization of non-recoupable ticketing contract advances when evaluating its ongoing adjusted EBITDA performance because these charges are non-cash expenses that can be affected by the timing and magnitude of business combinations, asset purchases and new client agreements and may not be reflective of our core business, ongoing operating results or future outlook.

Other Expense: consists primarily of interest expense related to our Convertible Senior Notes and our Credit Facility. The Company considers its adjusted EBITDA results without these charges when evaluating its ongoing performance because it is not believed by management to be reflective of our core business, ongoing operating results or future outlook.

Expense Associated with the Restructurings: consists of employee-related expense recognized in connection with the workforce reductions in the first quarters of 2018 and 2017 and the restructuring in Australia and New Zealand. These costs are included in the following cost and expense line items of our GAAP presentation: cost of revenue—other, product development, sales and marketing and general and administrative. This also consists of professional fees recognized in connection with the reorganization of the Company in the first quarters of 2017 and 2018, which are included in the general and administrative line item of our GAAP presentation. The Company considers its non-GAAP and adjusted EBITDA results without these charges when evaluating its ongoing performance because these charges are not believed by management to be reflective of our core business, ongoing operating results or future outlook.

Transaction Costs: consists of professional and legal fees recognized during the period, primarily related to the AdsWizz, Inc. acquisition. These costs are included in the general and administrative line item of our GAAP presentation. The Company considers its non-GAAP and adjusted EBITDA results without these charges when evaluating its ongoing performance because these charges are not believed by management to be reflective of our core business, ongoing operating results or future outlook.

Loss on Sales of Subsidiaries: consists of loss on sales of subsidiaries recognized during the period, primarily related to the Ticketfly disposition, including the cancellation of the convertible promissory note receivable. These amounts were calculated as the decrease in the fair value less costs to sell for sales of our subsidiaries and were recorded as loss on sales during the period. The Company considers its operating results without these charges when evaluating its ongoing non-GAAP and adjusted EBITDA results because these charges are not believed by management to be reflective of our core business, ongoing operating results or future outlook.

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Income Tax Effects of Non-GAAP Pre-tax Loss: The Company adjusts non-GAAP pre-tax net loss by considering the income tax effects of its non-GAAP adjustments. The Company is currently forecasting a non-GAAP effective tax rate of approximately 22% to 25% cumulatively for each quarter and the full year 2018. However, the Company is not expected to incur any material cash taxes due to its net operating loss position.

Management believes these non-GAAP financial measures and adjusted EBITDA serve as useful metrics for our management and investors because they enable a better understanding of the long-term performance of our core business and facilitate comparisons of our operating results over multiple periods and to those of peer companies, and when taken together with the corresponding GAAP financial measures and our reconciliations, enhance investors' overall understanding of our current financial performance.

In the financial tables below, the Company provides a reconciliation of the most comparable GAAP financial measure to the historical non-GAAP financial measures used in this earnings release.

Pandora Media, Inc.
Condensed Consolidated Statements of Operations
(in thousands, except per share amounts)
(unaudited)

	Three months ended March 31,	
	2017	**2018**
Revenue		
Advertising	$ 223,308	$ 214,568
Subscription and other	64,878	104,665
Ticketing service	27,818	—
Total revenue	316,004	319,233
Cost of revenue		
Cost of revenue—Content acquisition costs	187,420	217,580
Cost of revenue—Other (1)	25,532	26,849
Cost of revenue—Ticketing service (1)	18,618	—
Total cost of revenue	231,570	244,429
Gross profit	84,434	74,804
Operating expenses		
Product development (1)	39,588	35,884
Sales and marketing (1)	125,102	124,216
General and administrative (1)	44,525	41,631
Total operating expenses	209,215	201,731
Loss from operations	(124,781)	(126,927)

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Interest expense	(7,381)	(7,286)
Other income, net	229	2,582
Total other expense, net	(7,152)	(4,704)
Loss before provision for income taxes	(131,933)	(131,631)
Provision for income taxes	(334)	(74)
Net loss	(132,267)	(131,705)
Net loss available to common stockholders	$ (132,267)	$ (139,068)
Basic and diluted net loss per common share	$ (0.56)	$ (0.55)
Weighted-average basic and diluted common shares	237,515	252,934

(1) Includes stock-based compensation expense as follows:

	Three months ended March 31,	
	2017	2018
Cost of revenue—Other	$ 815	$ 742
Cost of revenue—Ticketing service	29	—
Product development	7,915	6,417
Sales and marketing	13,496	11,817
General and administrative	7,363	7,460
Total stock-based compensation expense	$ 29,618	$ 26,436

Pandora Media, Inc.
Condensed Consolidated Balance Sheets
(in thousands)

	As of December 31, 2017 (audited)	As of March 31, 2018 (unaudited)
Assets		
Current assets		
Cash and cash equivalents	$ 499,597	$ 454,923
Short-term investments	1,250	89,482
Accounts receivable, net	336,429	269,584
Prepaid content acquisition costs	55,668	35,901
Prepaid expenses and other current assets	19,220	20,074
Total current assets	912,164	869,964
Convertible promissory note receivable	35,471	—
Property and equipment, net	116,742	114,487
Goodwill	71,243	71,243
Intangible assets, net	19,409	17,891

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Other long-term assets	11,293	11,285
Total assets	$ 1,166,322	$ 1,084,870
Liabilities, redeemable convertible preferred stock and stockholders' equity		
Current liabilities		
Accounts payable	$ 14,896	$ 15,762
Accrued liabilities	34,535	37,655
Accrued content acquisition costs	97,751	106,254
Accrued compensation	47,635	42,908
Deferred revenue	31,464	37,681
Total current liabilities	226,281	240,260
Long-term debt, net	273,014	278,410
Other long-term liabilities	23,500	22,714
Total liabilities	522,795	541,384
Redeemable convertible preferred stock	490,849	498,211
Stockholders' equity		
Common stock	25	26
Additional paid-in capital	1,422,221	1,453,915
Accumulated deficit	(1,269,351)	(1,408,419)
Accumulated other comprehensive loss	(217)	(247)
Total stockholders' equity	152,678	45,275
Total liabilities, redeemable convertible preferred stock and stockholders' equity	$ 1,166,322	$ 1,084,870

Pandora Media, Inc.
Condensed Consolidated Statements of Cash Flows
(in thousands) (unaudited)

	Three months ended March 31,	
	2017	**2018**
Operating activities		
Net loss	$(132,267)	$(131,705)
Adjustments to reconcile net loss to net cash (used in) provided by operating activities		
Loss on dispositions	—	2,173
Depreciation and amortization	17,680	13,779
Stock-based compensation	29,618	26,436
Amortization of premium on investments, net	53	(118)
Accretion of discount on convertible promissory note receivable	—	(534)
Other operating activities	365	65
Amortization of debt discount	4,886	5,396

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Interest income	—	(810)
Provision for (recoveries of) bad debt	1,390	(315)
Changes in operating assets and liabilities		
Accounts receivable	44,941	67,160
Prepaid content acquisition costs	(2,232)	19,767
Prepaid expenses and other assets	(5,579)	(1,588)
Accounts payable, accrued and other current liabilities	13,192	4,749
Accrued content acquisition costs	(3,762)	8,503
Accrued compensation	(13,207)	(1,347)
Other long-term liabilities	(244)	(786)
Deferred revenue	3,996	6,217
Reimbursement of cost of leasehold improvements	5,236	357
Net cash (used in) provided by operating activities	(35,934)	17,399
Investing activities		
Purchases of property and equipment	(1,980)	(3,410)
Internal-use software costs	(7,765)	(5,489)
Purchases of investments	—	(89,341)
Proceeds from maturities of investments	11,220	1,250
Proceeds from cancellation of convertible promissory note receivable	—	34,742
Net cash provided by (used in) investing activities	1,475	(62,248)
Financing activities		
Proceeds from employee stock purchase plan	2,798	37
Proceeds from exercise of stock options	2,388	248
Tax payments from net share settlements of restricted stock units	—	(287)
Net cash provided by (used in) financing activities	5,186	(2)
Effect of exchange rate changes on cash, cash equivalents and restricted cash	210	(8)
Net decrease in cash, cash equivalents and restricted cash	(29,063)	(44,859)
Cash, cash equivalents and restricted cash at beginning of period	201,820	500,854
Cash, cash equivalents and restricted cash at end of period	$ 172,757	$ 455,995
Reconciliation of cash, cash equivalents and restricted cash as shown in the statements of cash flows		
Cash and cash equivalents	$ 170,881	$ 454,923
Restricted cash included in prepaid expenses and other current assets line item of Condensed Consolidated Balance Sheets	—	1,072
Restricted cash included in other long-term assets line item of Condensed Consolidated Balance Sheets	1,876	—
Total cash, cash equivalents and restricted cash	$ 172,757	$ 455,995

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(in thousands, except per share amounts)
(unaudited)

	Three months ended March 31,	
	2017	**2018**
Gross profit		
GAAP gross profit	$ 84,434	$ 74,804
Stock-based compensation—Cost of revenue	844	742
Amortization of intangibles—Cost of revenue	1,419	1,155
Expense associated with the restructurings	312	—
Non-GAAP gross profit	$ 87,009	$ 76,701
Adjusted EBITDA and non-GAAP net loss		
GAAP net loss	$ (132,267)	$ (131,705)
Depreciation and amortization	17,680	13,779
Stock-based compensation	29,618	26,436
Other expense, net	7,152	4,704
Provision for income taxes	334	74
Expense associated with the restructurings	6,180	8,868
Transaction costs	—	2,359
Loss on sales of subsidiaries	—	2,173
Adjusted EBITDA	$ (71,303)	$ (73,312)
Income tax effects of non-GAAP pre-tax loss	32,158	21,750
Other expense, net	(7,152)	(4,704)
Provision for income taxes	(334)	$ (74)
Depreciation	(10,557)	(12,261)
Non-GAAP net loss	$ (57,188)	$ (68,601)
Non-GAAP net loss per common share - basic and diluted	(0.24)	(0.27)
Weighted average basic and diluted common shares	237,515	252,934

Pandora Media, Inc.
Reconciliation of GAAP to Non-GAAP Measures continued
(in thousands, except per share amounts)
(unaudited)

	Three months ended March 31,	
	2017	**2018**
Product development		
GAAP product development	$ 39,588	$ 35,884

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Stock-based compensation	(7,915)	(6,417)
Amortization of intangibles	(1,822)	(97)
Expense associated with the restructurings	(702)	(622)
Non-GAAP product development	$ 29,149	$ 28,748
Sales and marketing		
GAAP sales and marketing	$ 125,102	$ 124,216
Stock-based compensation	(13,496)	(11,817)
Amortization of intangibles	(1,713)	(83)
Amortization of non-recoupable ticketing contract advances	(1,986)	—
Loss on sales of subsidiaries	—	(100)
Expense associated with the restructurings	(3,656)	(4,608)
Non-GAAP sales and marketing	$ 104,251	$ 107,608
General and administrative		
GAAP general and administrative	$ 44,525	$ 41,631
Stock-based compensation	(7,363)	(7,460)
Amortization of intangibles	(183)	(183)
Transaction costs	—	(2,359)
Loss on sales of subsidiaries	—	(2,073)
Expense associated with the restructurings	(1,510)	(3,638)
Non-GAAP general and administrative	$ 35,469	$ 25,918

Pandora Media, Inc.
Ad RPM and LPM History
(unaudited)

	Three months ended March 31,	
	2017	**2018**
Advertising RPM	$ 50.87	$ 55.52
Advertising LPM	$ 33.44	$ 36.35

Pandora Media, Inc.
Subscription ARPU and LPU History
(unaudited)

	Three months ended March 31,	
	2017	**2018**
Subscription ARPU	$ 4.76	$ 6.30
Subscription LPU	$ 2.96	$ 4.65

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Pandora Reports Q3 2018 Financial Results

Nov 05, 2018

Year-Over-Year Revenue Growth Accelerates, Gross Margins Expand in Q3

- Q3 Revenue was $417.6 million, growing 16% year-over-year, excluding Australia and New Zealand & Ticketfly
- Q3 Subscription revenue was $125.8 million, growing 49% year-over-year
- Q3 Advertising revenue of $291.9 million, improved year-over-year growth
- Ad RPM hit an all-time high of $77.83, growing 11% year-over-year
- Added 784,000 subscribers, reaching approximately 6.8 million total subscribers

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- Non-GAAP gross margins increased 500 basis points sequentially
- Partnership with SoundCloud will increase Pandora's U.S. ad audience reach to over 100 million users
- Announced acquisition by SiriusXM, creating the world's largest audio entertainment company

OAKLAND, Calif.--(BUSINESS WIRE)-- Pandora (NYSE: P) today announced financial results for the third quarter ended September 30, 2018.

"I'm proud of the progress we've made over the past year to reinvigorate Pandora," said Roger Lynch, CEO. "A year ago, we committed to drive listener engagement through product innovation, expand our content, and increase distribution partnerships. We also prioritized making our ad tech capabilities a strategic advantage. And we executed. We launched new products like Premium Access, delivering on-demand functionality and improved listener engagement in our ad-supported tier; forged partnerships with leading brands such as T-Mobile, AT&T, Comcast, and Snap; and solidified our global leadership in digital audio advertising with the acquisition of AdsWizz and the launch of our programmatic audio marketplace."

Continued Lynch, "Looking ahead, I couldn't be more excited about Pandora joining forces with SiriusXM. A combined Pandora-SiriusXM will create the world's largest audio entertainment company, bringing Pandora additional resources to accelerate growth and building on SiriusXM's leadership in the car, subscription expertise, and unique content."

Added CFO Naveen Chopra, "Our Q3 financial results, which exceeded both revenue and adjusted EBITDA guidance, showed meaningful improvement. Revenue growth accelerated, thanks to better monetization and a fast-growing subscription business; gross margins are expanding as evidenced by a 500 basis point sequential improvement in Q3; and we're operating more efficiently: we recorded a 300 basis point reduction in operating expenses (excluding marketing and subscription commissions) as a percentage of revenue. All of this puts us on track to significantly improve cash flow and adjusted EBITDA next year and beyond."

Third Quarter 2018 Financial Results & Highlights

SiriusXM Transaction: Pandora announced a definitive agreement under which SiriusXM will acquire Pandora in an all-stock transaction valued at approximately $3.5 billion at announcement. The combination creates the world's largest audio entertainment company with more than $7.0 billion in expected pro-forma revenue in 2018. Additionally, the transaction will benefit the long-term growth potential of both companies: by bolstering Pandora's position in the car, through co-marketing opportunities, leveraging SiriusXM's exclusive content in Pandora's non-music content offerings, including the Podcasting Genome, offering high-value bundled products, and improving SiriusXM's position in the home.

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Strategic Partnerships: Pandora continues to close strategic partnerships, announcing that SoundCloud will use Pandora as its exclusive U.S. advertising and sales representation. This partnership will increase Pandora's advertising reach to over 100 million listeners in the U.S. and highlights the ability of Pandora's sales organization and technology to help publishers better monetize their audiences. Beginning in 2019, the agreement will enable advertisers and brands to purchase SoundCloud's U.S. ad inventory directly through Pandora, leveraging Pandora's direct sales capabilities, targeting data, and recently-launched audio programmatic product. In addition, SoundCloud entered into an agreement to use AdsWizz's programmatic platform globally.

Revenue Growth: For the third quarter of 2018, total consolidated revenue was $417.6 million, an approximate 16% year-over-year increase compared to the year-ago quarter (excluding Australia, New Zealand and Ticketfly; and including AdsWizz, which was acquired in May 2018). This included $291.9 million in advertising revenue and $125.8 million in subscription revenue. Ad revenue grew approximately 6% year-over-year, the first instance of year-over-year growth since Q3 2017. This was driven by record monetization from high sell-through, the launch of new innovative ad formats and a continued mix shift toward higher CPM advertising products, as well as the inclusion of AdsWizz. Advertising revenue also grew organically year-over-year, excluding the contribution from Adswizz. Subscription revenue grew 49% year-over-year, driven by approximately 1.6 million net new subscribers and higher ARPU due to the growth of Pandora Premium.

Gross Profit and Margins Increase: For the third quarter, total consolidated non-GAAP gross profit was $160.2 million (excluding Australia, New Zealand and Ticketfly). This compared to $131.7 million in the year-ago quarter. Non-GAAP gross profit margin increased by 500 basis points sequentially to 38% in the third quarter, driven by strong advertising revenue and progress with label renewals. GAAP gross profit was $156.1 million compared to $135.9 million in the year-ago quarter.

GAAP Net Loss and Adjusted EBITDA: For the third quarter of 2018, GAAP net loss was $63.7 million or $0.27 per share. This compared to a net loss of $66.2 million or $0.34 per share in the same quarter last year. Our non-GAAP net loss was $15.5 million, or $0.06 per share. This compared to $15.9 million net loss or $0.06 in the year-ago quarter. Adjusted EBITDA was a loss of $3.9 million, compared to a loss of $5.3 million in the same quarter last year. This quarter included a significant increase in year-over-year marketing spend. Non-GAAP operating expenses (excluding app store commissions and marketing spend) as percentage of revenue decreased by 300 basis points year-over-year.

Cash and Investments: For the third quarter of 2018, the Company ended with $387.6 million in cash and investments, compared to $420.8 million at the end of the prior quarter.

Audience: Active users were 68.8 million at the end of the third quarter of 2018, and total listener hours were 4.81 billion for the third quarter of 2018. Pandora Plus and Pandora Premium subscribers were approximately 6.8 million at the end of the third quarter of 2018, and our Premium

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Access offering continues to show momentum, as over 32 million listeners have used Premium Access since its launch to date.

ABOUT PANDORA

Pandora is the world's most powerful music discovery platform—a place where artists find their fans and listeners find music they love. We are driven by a single purpose: unleashing the infinite power of music by connecting artists and fans, whether through earbuds, car speakers, or anywhere fans want to experience it. Our team of highly trained musicologists analyze hundreds of attributes for each recording which powers our proprietary Music Genome Project®, delivering billions of hours of personalized music tailored to the tastes of each music listener, full of discovery, making artist/fan connections at unprecedented scale. Founded by musicians, Pandora empowers artists with valuable data and tools to help grow their careers and connect with their fans.

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IMPORTANT ADDITIONAL INFORMATION AND WHERE TO FIND IT

This communication is being made in respect of the proposed merger transaction involving Sirius XM Holdings Inc. ("Sirius") and Pandora Media, Inc. ("Pandora"). Sirius has filed a registration statement on Form S-4 with the SEC, which includes a proxy statement of Pandora and a prospectus of Sirius and each party will file other documents regarding the proposed transaction with the SEC. Any definitive proxy statement(s)/prospectus(es) will also be sent to the stockholders of Pandora seeking any required stockholder approval. This communication does not constitute an offer to sell or the solicitation of an offer to buy any securities or a solicitation of any vote or approval. **Before making any voting or investment decision, investors and stockholders of Pandora are urged to carefully read the entire registration statement that has been filed with the SEC and the definitive proxy statement/prospectus, when they become available, and any other relevant documents filed with the SEC, as well as any amendments or supplements to these documents, because they will contain important information about the proposed transaction.** The documents filed by Sirius and Pandora with the SEC may be obtained free of charge at the SEC's website at www.sec.gov. In addition, the documents filed by Sirius may be obtained free of charge from Sirius at www.siriusxm.com, and the documents filed by Pandora may be obtained free of charge from Pandora at investor.pandora.com. Alternatively, these documents, when available, can be obtained free of charge from Sirius upon written request to Sirius,1290 Avenue of the Americas, 11th Floor, New York, New York 10104, Attn: Investor Relations, or by calling (212) 584-5100, or from Pandora upon written request to Pandora, 2100 Franklin Street, Suite 700, Oakland, California 94612 Attn: Investor Relations or by calling (510) 451-4100.

Sirius and Pandora and certain of their respective directors and executive officers may be deemed to be participants in the solicitation of proxies from the stockholders of Pandora in favor of the

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approval of the merger. Information regarding Sirius' directors and executive officers is contained in Sirius' Annual Report on Form 10-K for the year ended December 31, 2017, its Quarterly Reports on Form 10-Q for the quarterly periods ended March 31, 2018 and June 30, 2018, its Proxy Statement on Schedule 14A, dated April 23, 2018, and its Registration Statement on S-4, dated October 31, 2018, which are filed with the SEC. Information regarding Pandora's directors and executive officers is contained in Pandora's Annual Report on Form 10-K for the year ended December 31, 2017, its Quarterly Reports on Form 10-Q for the quarterly periods ended March 31, 2018 and June 30, 2018 and its Proxy Statement on Schedule 14A, dated April 10, 2018, which are filed with the SEC. Additional information regarding the interests of those participants and other persons who may be deemed participants in the transaction may be obtained by reading the registration statement(s) and the proxy statement(s)/prospectus(es) when they become available. Free copies of these documents may be obtained as described in the preceding paragraph.

FORWARD-LOOKING STATEMENTS

This communication contains "forward-looking statements" within the meaning of the Private Securities Litigation Reform Act of 1995. Such statements include, but are not limited to, statements about expected revenue and adjusted EBITDA, the benefits to Pandora from the acquisition of AdsWizz, future financial and operating results, our plans, objectives, expectations and intentions with respect to future operations, products and services; and other statements identified by words such as "will likely result," "are expected to," "will continue," "is anticipated," "estimated," "believe," "intend," "plan," "projection," "outlook" or words of similar meaning. Such forward-looking statements are based upon the current beliefs and expectations of our management and are inherently subject to significant business, economic and competitive uncertainties and contingencies, many of which are difficult to predict and generally beyond our control. Actual results and the timing of events may differ materially from the results anticipated in these forward-looking statements.

In addition to factors previously disclosed in Sirius' and Pandora's reports filed with the SEC and those identified elsewhere in this communication, the following factors, among others, could cause actual results and the timing of events to differ materially from the anticipated results or other expectations expressed in the forward-looking statements: our operation in an emerging market and our relatively new and evolving business model; our ability to estimate revenue reserves; our ability to increase our listener base and listener hours; our ability to attract and retain advertisers; our ability to generate additional revenue on a cost-effective basis; our ability to continue operating under existing laws and licensing regimes; our ability to enter into and maintain commercially viable direct licenses with record labels for the right to reproduce and publicly perform sound recordings on our service; our ability to establish and maintain relationships with makers of mobile devices, consumer electronic products and automobiles; our ability to manage our growth and geographic expansion; our ability to continue to innovate and keep pace with changes in technology and our competitors; our ability to expand our operations to delivery of non-music content; ability to meet the closing conditions to the merger, including the approval of Pandora's stockholders on the expected terms and schedule and the risk that regulatory approvals required for the merger are not obtained or are obtained subject to conditions that are not anticipated; delay in closing the merger; failure to

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realize the expected benefits from the proposed transaction; risks related to disruption of management time from ongoing business operations due to the proposed transaction; Sirius' or Pandora's substantial competition, which is likely to increase over time; Sirius' or Pandora's ability to retain subscribers or increase the number of subscribers is uncertain; Sirius' or Pandora's ability to profitably attract and retain subscribers; failing to protect the security of the personal information about Sirius' or Pandora's customers; interference to Sirius' or Pandora's service from wireless operations; Sirius and Pandora engage in substantial marketing efforts and the continued effectiveness of those efforts are an important part of Sirius' and Pandora's business; consumer protection laws and their enforcement; Sirius' or Pandora's failure to realize benefits of acquisitions or other strategic initiatives; unfavorable outcomes of pending or future litigation; the market for music rights, which is changing and subject to uncertainties; Sirius' dependence upon the auto industry; general economic conditions; existing or future government laws and regulations could harm Sirius' or Pandora's business; failure of Sirius' satellites would significantly damage its business; the interruption or failure of Sirius' or Pandora's information technology and communications systems; rapid technological and industry changes; failure of third parties to perform; Sirius' failure to comply with FCC requirements; modifications to Sirius' or Pandora's business plan; Sirius' or Pandora's indebtedness; Sirius' studios, terrestrial repeater networks, satellite uplink facilities or Sirius' or Pandora's other ground facilities could be damaged by natural catastrophes or terrorist activities; Sirius' principal stockholder has significant influence over its affairs and over actions requiring stockholder approval and its interests may differ from interests of other holders of Sirius' common stock; Sirius is a "controlled company" within the meaning of the NASDAQ listing rules; impairment of Sirius' or Pandora's business by third-party intellectual property rights; changes to Sirius' dividend policies which could occur at any time; and risks related to the inability to realize cost savings or revenues or to implement integration plans and other consequences associated with mergers, acquisitions and divestitures. The information set forth herein speaks only as of the date hereof, and Sirius and Pandora disclaim any intention or obligation to update any forward looking statements as a result of developments occurring after the date of this communication. Further information on these factors and other risks that may affect the business are included in filings with the Securities and Exchange Commission (SEC) from time to time, including under the heading "Risk Factors" in our most recent reports on Form 10-K and Form 10-Q.

The financial information contained in this press release should be read in conjunction with the consolidated financial statements and notes thereto included in our most recent reports on Form 10-K and Form 10-Q, each as they may be amended from time to time. Our results of operations for the current period are not necessarily indicative of our operating results for any future periods.

Non-GAAP Financial Measures: To supplement our condensed consolidated financial statements, which are prepared and presented in accordance with accounting principles generally accepted in the United States ("GAAP"), the Company uses the following non-GAAP measures of financial performance: non-GAAP gross profit, non-GAAP net loss, non-GAAP basic and diluted net loss per common share, adjusted EBITDA, non-GAAP product development, non-GAAP sales and marketing and non-GAAP general and administrative. The presentation of this additional financial information

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is not intended to be considered in isolation from, as a substitute for, or superior to, the financial information prepared and presented in accordance with GAAP. These non-GAAP measures have limitations in that they do not reflect all of the amounts associated with our results of operations as determined in accordance with GAAP. In addition, these non-GAAP financial measures may be different from the non-GAAP financial measures used by other companies. These non-GAAP measures should only be used to evaluate our results of operations in conjunction with the corresponding GAAP measures. Management compensates for these limitations by reconciling these non-GAAP financial measures to the most comparable GAAP financial measures within our earnings releases.

Non-GAAP gross profit, non-GAAP net loss, non-GAAP basic and diluted net loss per common share, non-GAAP product development, non-GAAP sales and marketing and non-GAAP general and administrative differ from GAAP in that they exclude stock-based compensation expense, intangible amortization expense, amortization of non-recoupable ticketing contract advances, expense associated with the restructurings, transaction costs, loss on dispositions and loss on extinguishment of convertible debt. The income tax effects of non-GAAP pre-tax loss have been reflected in non-GAAP net loss and non-GAAP basic and diluted net loss per common share.

Adjusted EBITDA: Adjusted EBITDA excludes stock-based compensation expense, provision for income taxes, depreciation and intangible amortization expense, amortization of non-recoupable ticketing contract advances, other expense, expense associated with the restructurings, transaction costs and loss on dispositions.

Stock-based Compensation Expense: consists of expenses for stock options, restricted stock units and other awards under our equity incentive plans. Stock-based compensation is included in the following cost and expense line items of our GAAP presentation: cost of revenue—other, cost of revenue—ticketing service, product development, sales and marketing and general and administrative.

Although stock-based compensation is an expense for the Company and is viewed as a form of compensation, management excludes stock-based compensation from our non-GAAP measures and adjusted EBITDA results for purposes of evaluating our continuing operating performance primarily because it is a non-cash expense not believed by management to be reflective of our core business, ongoing operating results or future outlook. In addition, the value of stock-based instruments is determined using formulas that incorporate variables, such as market volatility, that are beyond our control.

Provision for Income Taxes: consists of expense recognized related to U.S. and foreign income taxes. The Company considers its adjusted EBITDA results without these charges when evaluating its ongoing performance because it is not believed by management to be reflective of our core business, ongoing operating results or future outlook.

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Depreciation and Intangible Amortization Expense: consists of non-cash charges that can be affected by the timing and magnitude of business combinations and asset purchases. Depreciation and intangible amortization expense is included in the following cost and expense line items of our GAAP presentation: cost of revenue—other, cost of revenue—ticketing service, product development, sales and marketing and general and administrative. Depreciation and intangible amortization expense also consists of non-cash amortization of non-recoupable amounts paid in advance to the Company's clients pursuant to ticketing agreements. Amortization of non-recoupable ticketing contract advances is included in the sales and marketing line of our GAAP presentation. Management considers its operating results without intangible amortization expense and amortization of non-recoupable ticketing contract advances when evaluating its ongoing non-GAAP performance and without depreciation, intangible amortization expense and amortization of non-recoupable ticketing contract advances when evaluating its ongoing adjusted EBITDA performance because these charges are non-cash expenses that can be affected by the timing and magnitude of business combinations, asset purchases and new client agreements and may not be reflective of our core business, ongoing operating results or future outlook.

Other Expense: consists primarily of interest expense related to our Convertible Senior Notes and our Credit Facility. The Company considers its adjusted EBITDA results without these charges when evaluating its ongoing performance because it is not believed by management to be reflective of our core business, ongoing operating results or future outlook.

Expense Associated with the Restructurings:consists of employee-related expense recognized in connection with the workforce reductions in the first quarters of 2018 and 2017 and the restructuring in Australia and New Zealand. These costs are included in the following cost and expense line items of our GAAP presentation: cost of revenue—other, product development, sales and marketing and general and administrative. This also consists of professional fees recognized in connection with the reorganization of the Company in the first quarters of 2017 and 2018, which are included in the general and administrative line item of our GAAP presentation. The Company considers its non-GAAP and adjusted EBITDA results without these charges when evaluating its ongoing performance because these charges are not believed by management to be reflective of our core business, ongoing operating results or future outlook.

Transaction Costs: consists of professional and legal fees recognized during the period, primarily related to the potential Sirius acquisition and the AdsWizz acquisition. These costs are included in the general and administrative line item of our GAAP presentation. The Company considers its non-GAAP and adjusted EBITDA results without these charges when evaluating its ongoing performance because these charges are not believed by management to be reflective of our core business, ongoing operating results or future outlook.

Loss on Dispositions: consists of loss on dispositions recognized during the period, primarily related to the Ticketfly disposition, including the cancellation of the convertible promissory note receivable. These amounts were calculated as the decrease in the fair value less costs to sell for sales of our subsidiaries and were recorded as loss on sales during the period. The Company

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considers its operating results without these charges when evaluating its ongoing non-GAAP and adjusted EBITDA results because these charges are not believed by management to be reflective of our core business, ongoing operating results or future outlook.

Loss on Extinguishment of Convertible Debt: consists of loss on extinguishment of convertible debt recognized during the period. This amount were calculated as the difference in the fair value and carrying value of the convertible debt immediately prior to extinguishment and was recorded as loss on extinguishment of convertible debt during the period. The Company considers its operating results without these charges when evaluating its ongoing non-GAAP and adjusted EBITDA results because these charges are not believed by management to be reflective of our core business, ongoing operating results or future outlook.

Income Tax Effects of Non-GAAP Pre-tax Loss: The Company adjusts non-GAAP pre-tax net loss by considering the income tax effects of its non-GAAP adjustments. The Company is currently forecasting a non-GAAP effective tax rate of approximately 22% to 25% cumulatively for each quarter and the full year 2018. However, the Company is not expected to incur any material cash taxes due to its net operating loss position.

Management believes these non-GAAP financial measures and adjusted EBITDA serve as useful metrics for our management and investors because they enable a better understanding of the long-term performance of our core business and facilitate comparisons of our operating results over multiple periods and to those of peer companies, and when taken together with the corresponding GAAP financial measures and our reconciliations, enhance investors' overall understanding of our current financial performance.

In the financial tables below, the Company provides a reconciliation of the most comparable GAAP financial measure to the historical non-GAAP financial measures used in this earnings release.

Pandora Media, Inc.
Condensed Consolidated Statements of Operations
(in thousands, except per share amounts)
(unaudited)

	Three months ended September 30,		Nine months ended September 30,	
	2017 (1)	**2018 (1)**	**2017 (1)**	**2018 (1)**
Revenue				
Advertising	$275,741	$291,856	$ 777,253	$ 777,480
Subscription and other	84,414	125,772	218,192	344,175
Ticketing service	18,484	—	76,032	—
Total revenue	378,639	417,628	1,071,477	1,121,655

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Cost of revenue				
Cost of revenue—Content acquisition costs	204,222	222,191	587,517	666,631
Cost of revenue—Other (2)	27,287	39,308	80,259	98,884
Cost of revenue—Ticketing service (2)	11,269	—	50,397	—
Total cost of revenue	242,778	261,499	718,173	765,515
Gross profit	135,861	156,129	353,304	356,140
Gross margin	36%	37%	33%	32%
Operating expenses				
Product development (2)	39,469	42,553	120,290	118,788
Sales and marketing (2)	107,588	124,760	378,581	374,351
General and administrative (2)	48,171	47,273	150,650	142,521
Goodwill impairment	—	—	131,997	—
Contract termination (benefit) fees	(423)	—	23,044	—
Total operating expenses	194,805	214,586	804,562	635,660
Loss from operations	(58,944)	(58,457)	(451,258)	(279,520)
Interest expense	(7,592)	(6,768)	(22,377)	(20,799)
Other income, net	559	1,684	866	6,033
Total other expense, net	(7,033)	(5,084)	(21,511)	(14,766)
Loss before (provision for) benefit from income taxes	(65,977)	(63,541)	(472,769)	(294,286)
(Provision for) benefit from income taxes	(266)	(125)	(877)	6,933
Net loss	(66,243)	(63,666)	(473,646)	(287,353)
Net loss available to common stockholders	$ (84,562)	$ (71,251)	$(506,493)	$(309,774)
Basic and diluted net loss per common share	$ (0.34)	$ (0.27)	$ (2.10)	$ (1.19)
Weighted-average basic and diluted common shares	245,810	268,058	241,579	260,327

(1) Includes results for Australia, New Zealand and Ticketfly, where applicable
(2) Includes stock-based compensation expense as follows:

	Three months ended September 30,		Nine months ended September 30,	
	2017	2018	2017	2018
Cost of revenue—Other	$ 803	$ 742	$ 2,432	$ 2,284
Cost of revenue—Ticketing service	6	—	69	—
Product development	8,428	8,884	25,765	23,329
Sales and marketing	14,059	11,300	42,657	34,209
General and administrative	6,805	7,912	27,404	22,980
Total stock-based compensation expense	$ 30,101	$ 28,838	$ 98,327	$ 82,802

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Condensed Consolidated Balance Sheets
(in thousands)

	As of December 31, 2017 (audited)	As of September 30, 2018 (unaudited)
Assets		
Current assets		
Cash and cash equivalents	$ 499,597	$ 287,523
Short-term investments	1,250	100,119
Accounts receivable, net	336,429	373,418
Prepaid content acquisition costs	55,668	32,219
Prepaid expenses and other current assets	19,220	25,673
Total current assets	912,164	818,952
Convertible promissory note receivable	35,471	—
Property and equipment, net	116,742	107,802
Goodwill	71,243	178,917
Intangible assets, net	19,409	55,557
Other long-term assets	11,293	11,575
Total assets	$ 1,166,322	$ 1,172,803
Liabilities, redeemable convertible preferred stock and stockholders' equity		
Current liabilities		
Accounts payable	$ 14,896	$ 28,406
Accrued liabilities	34,535	72,311
Accrued content acquisition costs	97,751	123,910
Accrued compensation	47,635	45,687
Deferred revenue	31,464	55,678
Total current liabilities	226,281	325,992
Long-term debt, net	273,014	255,272
Other long-term liabilities	23,500	25,660
Total liabilities	522,795	606,924
Redeemable convertible preferred stock	490,849	513,270
Stockholders' equity		
Common stock	25	27
Additional paid-in capital	1,422,221	1,632,178
Accumulated deficit	(1,269,351)	(1,579,125)
Accumulated other comprehensive loss	(217)	(471)
Total stockholders' equity	152,678	52,609
Total liabilities, redeemable convertible preferred stock and stockholders' equity	$ 1,166,322	$ 1,172,803

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COEX-
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Pandora Media, Inc.
Condensed Consolidated Statements of Cash Flows
(in thousands) (unaudited)

	Three months ended September 30,		Nine months ended September 30,	
	2017	2018	2017	2018
Operating activities				
Net loss	$ (66,243)	$ (63,666)	$(473,646)	$(287,353)
Adjustments to reconcile net loss to net cash used in operating activities				
Goodwill impairment	—	—	131,997	—
Loss on dispositions	9,459	—	9,459	2,173
Loss on extinguishment of convertible debt	—	—	—	14,600
Depreciation and amortization	14,006	16,105	49,121	44,167
Stock-based compensation	30,101	28,838	98,327	82,802
Amortization (accretion) of premium on investments	5	(530)	78	(1,200)
Accretion of discount on convertible promissory note receivable	(171)	—	(171)	(534)
Other operating activities	104	571	290	802
Amortization of debt discount	5,135	4,973	14,934	15,391
Interest income	(258)	—	(258)	(810)
Provision for bad debt	1,577	2,444	10,851	3,960
Changes in operating assets and liabilities				
Accounts receivable	(23,888)	(36,271)	(11,294)	(20,160)
Prepaid content acquisition costs	(40,283)	1,240	(33,842)	32,529
Prepaid expenses and other assets	(8,809)	(3,546)	(17,955)	(4,892)
Accounts payable, accrued and other current liabilities	(15,329)	22,592	(257)	26,193
Accrued content acquisition costs	11,538	(1,881)	6,063	26,159
Accrued compensation	545	(620)	(12,646)	550
Other long-term liabilities	(708)	(259)	(532)	(9,286)
Deferred revenue	1,502	2,867	5,618	14,914
Reimbursement of cost of leasehold improvements	—	—	5,236	894
Net cash used in operating activities	(81,717)	(27,143)	(218,627)	(59,101)
Investing activities				
Purchases of property and equipment	(4,320)	(2,300)	(12,861)	(7,290)
Internal-use software costs	(3,054)	(4,657)	(13,948)	(15,235)
Payments related to acquisition, net of cash acquired	—	—	—	(66,924)
Purchases of investments	—	(80,158)	—	(244,744)
Proceeds from maturities of investments	11,810	108,420	37,084	147,170
Proceeds from cancellation of convertible promissory note receivable	—	—	—	34,742
Proceeds from sales of subsidiaries, net of cash	122,912	—	122,912	—

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Net cash provided by (used in) investing activities	127,348	21,305	133,187	(152,281)
Financing activities				
Proceeds from issuance of redeemable convertible preferred stock	307,500	—	480,000	—
Payments of issuance costs	(16,659)	(370)	(29,284)	(4,886)
Repayment of debt arrangements	(90,000)	—	(90,000)	—
Proceeds from employee stock purchase plan	1,866	1,882	8,012	4,156
Proceeds from exercise of stock options	4,698	356	7,836	779
Tax withholdings related to net share settlements of restricted stock units	—	(1,174)	—	(1,651)
Net cash provided by (used in) financing activities	207,405	694	376,564	(1,602)
Effect of exchange rate changes on cash, cash equivalents and restricted cash	(55)	(329)	237	(347)
Net increase (decrease) in cash, cash equivalents and restricted cash	252,981	(5,473)	291,361	(213,331)
Cash, cash equivalents and restricted cash at beginning of period	212,099	292,996	201,820	500,854
Less: Decrease in cash and restricted cash held for sale	28,101	—	—	—
Cash, cash equivalents and restricted cash at end of period	$493,181	$287,523	$ 493,181	$ 287,523

Pandora Media, Inc.
Reconciliation of GAAP to Non-GAAP Measures
(in thousands, except per share amounts)
(unaudited)

	Three months ended September 30,		Nine months ended September 30,	
	2017	**2018**	**2017**	**2018**
Gross profit				
GAAP gross profit	$135,861	$156,129	$ 353,304	$ 356,140
Stock-based compensation—Cost of revenue	809	742	2,501	2,284
Amortization of intangibles—Cost of revenue	1,567	3,154	5,500	6,260
Expense associated with the restructurings	—	—	390	—
Non-GAAP gross profit	$138,237	$160,025	$ 361,695	$ 364,684
Non-GAAP gross margin	37%	38%	34%	33%
Adjusted EBITDA and non-GAAP net loss				
GAAP net loss	$ (66,243)	$ (63,666)	$(473,646)	$(287,353)
Depreciation and amortization	14,006	16,105	49,121	44,167
Stock-based compensation	30,101	28,838	98,327	82,802

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Other expense, net	7,033	5,084	21,511	14,766
Provision for (benefit from) income taxes	266	125	877	(6,933)
Expense associated with the restructurings	520	372	8,433	10,619
Goodwill impairment	—	—	131,997	—
Transaction costs	—	9,247	—	13,306
Loss on dispositions	9,459	—	9,459	2,173
Loss on extinguishment of convertible debt	—	—	—	14,600
Contract termination (benefit) fees	(423)	—	23,044	—
Adjusted EBITDA	$ (5,281)	$ (3,895)	$(130,877)	$(111,853)
Income tax effects of non-GAAP pre-tax loss	8,483	5,356	64,237	32,353
Other expense, net	(7,033)	(5,084)	(21,511)	(14,766)
(Provision for) benefit from income taxes	(266)	$ (125)	(877)	6,933
Depreciation	(11,845)	(11,799)	(34,223)	(35,715)
Non-GAAP net loss	$ (15,942)	$ (15,547)	$(123,251)	$(123,048)
Non-GAAP net loss per common share - basic and diluted	(0.06)	(0.06)	(0.51)	(0.47)
Weighted average basic and diluted common shares	245,810	268,058	241,579	260,327

Pandora Media, Inc.
Reconciliation of GAAP to Non-GAAP Measures continued
(in thousands, except per share amounts)
(unaudited)

	Three months ended September 30,		Nine months ended September 30,	
	2017	2018	2017	2018
Product development				
GAAP product development	$ 39,469	$ 42,553	$120,290	$118,788
Stock-based compensation	(8,428)	(8,884)	(25,765)	(23,329)
Amortization of intangibles	(97)	(97)	(2,173)	(291)
Expense associated with the restructurings	(23)	—	(733)	(622)
Non-GAAP product development	$ 30,921	$ 33,572	$ 91,619	$ 94,546
Sales and marketing				
GAAP sales and marketing	$107,588	$124,760	$378,581	$374,351
Stock-based compensation	(14,059)	(11,300)	(42,657)	(34,209)
Amortization of intangibles	(83)	(871)	(2,966)	(1,351)
Amortization of non-recoupable ticketing contract advances	(230)	—	(3,709)	—
Loss on dispositions	(75)	—	(75)	(100)

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Expense associated with the restructurings	(286)	—	(5,493)	(4,608)
Non-GAAP sales and marketing	$ 92,855	$112,589	$323,681	$334,083
General and administrative				
GAAP general and administrative	$ 48,171	$ 47,273	$150,650	$142,521
Stock-based compensation	(6,805)	(7,912)	(27,404)	(22,980)
Amortization of intangibles	(184)	(184)	(550)	(550)
Transaction costs	—	(9,247)	—	(13,306)
Loss on dispositions	(9,384)	—	(9,384)	(2,073)
Loss on extinguishment of convertible debt	—	—	—	(14,600)
Expense associated with the restructurings	(211)	(372)	(1,817)	(5,389)
Non-GAAP general and administrative	$ 31,587	$ 29,558	$111,495	$ 83,623

Pandora Media, Inc.
Ad RPM and LPM History
(unaudited)

	Three months ended September 30,		Nine months ended September 30,	
	2017	2018	2017	2018
Advertising RPM	$ 70.27	$ 77.84	$ 62.08	$ 67.14
Advertising LPM	$ 37.01	$ 37.80	$ 35.36	$ 36.99

Pandora Media, Inc.
Subscription ARPU and LPU History
(unaudited)

	Three months ended September 30,		Nine months ended September 30,	
	2017	2018	2017	2018
Subscription ARPU	$ 5.58	$ 6.68	$ 5.05	$ 6.51
Subscription LPU	$ 3.87	$ 4.51	$ 3.33	$ 4.64

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Sirius XM Holdings Inc.'s (SIRI) Management Presents at Credit Suisse 23rd Annual Communications Conference (Transcript)

Jun. 15, 2021 2:58 PM ET | **Sirius XM Holdings Inc. (SIRI)** | 3 Comments

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Play Earnings Call

Sirius XM Holdings Inc. (NASDAQ:SIRI) Credit Suisse 23rd Annual Communications Conference Call June 15, 2021 11:10 AM ET

Company Participants

Sean Sullivan - Executive Vice President and Chief Financial Officer

Conference Call Participants

Doug Mitchelson - Credit Suisse

Doug Mitchelson

Good morning. Welcome to the next section of the 23rd Annual Credit Suisse Communications Conference. I am Doug Mitchelson, the media and cable satellite and telecom analyst here at Credit Suisse. Very pleased to have with us this morning, Sean Sullivan, Executive Vice President and Chief Financial Officer of SiriusXM. Sean, thanks so much for joining us today.

Sean Sullivan

Thanks, Doug. Good to see you. Thanks for having me.

Question-and-Answer Session

Q - Doug Mitchelson

Yes, of course. I mean, look, you've been at SiriusXM for about eight months now. What surprised you as you've gotten to know the company that wasn't obvious to you from the outside or on day one?

Sean Sullivan

Yes. It's hard to believe it's been eight months and on-boarding during a global pandemic virtually to this company is certainly probably more challenging than I anticipated, but it's a great challenge, it's a great company, great people.

I guess to your specific question, what surprised me, I've always been a huge fan of the brand, the content, the offering. I guess what I've been surprised and don't take this the wrong way, I really probably underappreciated the sophistication at which we manage our subscription business and our customer churn you see it in the financial results.

So, certainly, we've been pleasantly surprised by the team, certainly, the finance organization, specifically under my watch has been great. Otherwise, all the things you know, it's a great cash generation. There is a great portfolio of assets here. I think the strategic opportunities that are in front of the company are great. And the real question is how do we capitalize on? I've been surprised again and I am sure we'll talk about it, the resiliency of this business. Certainly, during the last 15 to 18 months has been incredible.

So all-in-all, it's been pleasantly surprised. I look forward to getting back to work back in the office here in New York and meeting more of my colleagues in person. As I said, that's probably been the most surprising thing, but probably not the intent of your question.

Doug Mitchelson

We are going to talk about that resiliency in a bit, but I did want to start with what your priorities are for the rest of the year?

Sean Sullivan

Yes. I mean, 2021, we had a great first quarter. I think it's just typically light for us. We are focused on delivering. I mean, as you know, from Jim and now with Jennifer, this company has a long track record of delivering or exceeding on their goals and the operational excellence that they pride themselves on. So, I have no intention of wearing off from that.

So really, for 2021, let's continue to deliver and meet and exceed the targets we've stated. Beyond that for me and Jennifer, it's really about what the strategic planning looks like, right, and what does the next three to five years look like and how do we set and accelerate and continue the investments that have been made and whether that's enhancing the content offering, whether that's - what role does podcasting play in overall content offering? And we got two strategic pillars, right?

We've got in the car, we've got out of the car, we've got digital. And I am sure we will talk about it, the ad platform and all the tools that we offer. So, I really think that we are using the middle of this year as we continue to focus on delivering 2021 is how do we really set this up and accelerate growth for the next three to five years?

Doug Mitchelson

Well, it's interesting. So, let's dig into some of the fundamentals first before touching on some of those. SiriusXM is less and less leverage to the new car market. I know with each passing year, penetration with vehicles on the road is increasing. I think I saw WallStreet Journal last night, 12 years now on sort of average car. Auto inventories are at all-time low with high demand, constrained supply. How is your new car business been disrupted by these conditions and how is the used sale funnel?

Sean Sullivan

Yes. I don't know that they have been disrupted, Doug. I think, as you saw and I mentioned it briefly, the first quarter, typically, a light quarter was strong. The strength of the consumer continues to really be strong despite low inventories. You've seen the SAAR you saw it for April, which I think was north of 18 million. You saw it from May and 17 million inventories are at record lows.

That being said, we've really seen not a disruption, but just a continued chugging along. A lot of the OEMs were staying very close to what they are saying and doing. And many have said that the second quarter hopefully will be a bit of a trough for them in terms of some of the supply chain disruptions they see.

But all-in-all, things have been very positive. And frankly, we haven't been disrupted. I know we probably came into the year feeling conservative about the consumer, conservative about the marketplace and conservative on some of the chip shortages and how that may impact our ability to deliver. But to date, we've seen continued momentum.

Doug Mitchelson

So even though I think you just applied it three different ways, I'm still going to ask specifically because I know investors really care about this. It sounds like you're tracking towards your guidance just fine, including how you did in 2Q, how you're doing in 2Q.

Sean Sullivan

Yes. I mean, if you're asking me specifically about our self-pay net adds, we are tracking well. I think that there were some contingencies in the market that certainly cautioned us to be conservative coming out of the first quarter. I think Jennifer last month was very direct about, if not for, we probably would have raised our self-pay net guide. So I guess what I would tell you is, again, the consumer landscape is incredibly strong right now. And as we've announced, we will be on July 27, I think, and probably have more to say at the – for the second quarter, Doug.

Doug Mitchelson

So back to resiliency, I think last March, most of the Street would have said SiriusXM would have been highly disrupted by remote work and social distancing. Your results last year were remarkably steady. And so as we sort of think about that and look forward, first, how is the business permanently different, if at all, than it would have been had the pandemic not happened?

Sean Sullivan

Yes. So I guess, only having been here eight months and joining during the pandemic, I'll give you the anecdotes or the virtual experiences. No. But in all seriousness, I think, many of us have been surprised that if we think about the consumer-facing part of it, how resilient the business model has been and how we've been able to continue to deliver results even in the face of this.

I guess the learnings are that is there an accelerated digital transformation in terms of how we engage with customers? Again, whether that's call center, whether that's online, whether that's messaging, I think that the pandemic in this time has given us an ability to really accelerate some of our learnings there.

As you know, we've diversified our product offering, right? So we acquired Stitcher. We've got the AdsWizz business. We have Simplecast. We acquired 99% Invisible. Roman Mars is a podcasting company. And I think we've learned a lot about the power of the assets, the content centricity of the business and how we can leverage those things. I mean again, that's not even to say what have we learned in terms of a workforce, return to work? What is an office footprint and all those things that I think will hopefully accrue some operating leverage benefits to the company.

But certainly, all in all, the other thing is we really focused on engagement, right? You think about people being at home as opposed to in their cars and what did mobility really mean? But I think we certainly try to enhance our out-of-car engagement through connected devices, et cetera.

So, a lot of learnings, I don't really think there were step function changes, Doug. I mean certainly, we're trying to capitalize on the cost base aspect of what we've learned through it and certainly enhance our engagement with consumers. And again, we weren't – we stayed disciplined, but focused on how do we enhance the content offering and make this business better for the consumer. So those are probably the high points.

Doug Mitchelson

So now as we emerge from the pandemic and we sort of head into a reopening backdrop, how is that going to influence SiriusXM? I mean, should we think about a path where the level of gross additions and churn normalizes?

Sean Sullivan

Yes. It's an interesting question. I think we have non-paid churn, non-pay has been incredibly resilient presumably when we return to normal, we would expect that to tick up just like vehicle-related churn wood. But I guess the real question for us is what is the nature of driving in the future, how does that impact our consumer base? For those of us that live in the Northeast corridor, there is nobody on the trains, there is a lot of people on the road.

So I think what does reopening look like? What does mobility look like and drive, I think those feel more positive than negative for us. And certainly, we'd expect what has been historically low churn rates in some cases, to tick up and normalize as we've indicated in the past. But so far, as you saw in the Q1 results, we continue to be very strong on the churn for sure.

Doug Mitchelson

You talked about some of the changes sort of the ecosystem and product set. How does marketing to develop for SiriusXM, whether it's due to learnings or changes due to the pandemic, whether it's just overall ecosystem shifts? And as part of that, would you walk through the shift in OEM promotions that you started to talk about on the last quarterly conference call?

Sean Sullivan

Yes. I mean I don't know that there is a ton of changes. I think the marketing during the pandemic for sure was probably more focused on the out-of-car engagement with the consumer. We have, which I think is a great opportunity and a great unlock here is the digital side of this, in terms of digital streaming and SiriusXM subscribers. So, I think that we'll continue our focus of out of the car, how do we drive digital adoption, engagement and usage and really just a digital transformation for the company overall.

In terms of the OEMs, again, those are – I think we've talked about a bit length in the past, those are two agreements, as you know, we holistically look at the levers. And at the end of the day, what are we doing? We're trading some prepaid promo for some benefits to SAC and rev share. But all in all, I think, the trials in the most part are to three months. So I don't know that the OEM shift is that material. Hopefully, we've given enough clarity to people in terms of how it impacts the financials.

Doug Mitchelson

So, we strategically scheduled our conference in this presentation right after the Wright Royalty Board's Web V decision. I know you had a release on it last night. Any substantial true-up back to the start of the year? How does the rate compare the conservative assumptions or what we thought might be conservative assumptions embedded in your guidance?

Sean Sullivan

Yes. So yes, we're pleased to have the uncertainty removed, for sure, right? So now we've got some predictability and visibility for the next five years, which is great. Certainly, the increases are meaningful, but certainly less than what had been asked for. As you know, we put out an 8-K about it yesterday.

I think the best way, as I've articulated, I think, in the first quarter, we took a pragmatic approach. So I guess the question is, what does pragmatic mean? I think for the most part, we turned out to be largely right given the past history of the CRB and what they did. So what does that mean? I think our assumption was probably slightly conservative.

So I think you said conservative. I think it was slightly better than we anticipated. But again, it removes an overhang. It gives us clarity for five years. In and of itself, it's not a material deviation from what we had anticipated and embedded in our overall guidance. So again, pleased to have that certainly announced. I know there is more to come in terms of actually publishing and finalizing over the coming months. But – and again, well, I'm sure we will have more to say late July, Doug, but that's overall, our point of view.

Doug Mitchelson

So let's talk about the 360L for a few minutes. I mean how much focus has management team placed on driving penetration in new cars? What's the end state for 360L? Should every SiriusXM car someday be that 360L radio car? Do you – or do you always see ever getting into sort of a fraction of the satellite user base?

Sean Sullivan

No. It's a big focus for the management team. I think it's a significant move in investments in the company as we deliver both satellite and IP delivered content to the vehicle. I think we've said that we expect that 80% of the new cars in 2025 will have 360L in them. So to your point about what will it be and what will the interfaces be, we believe it to be, it will be the predominant new car installation in 2025.

So there is a lot of focus on it. There is incredible features. I think that it's a great mix. It – some of the new vehicles that I've seen, it's larger screens. The interface is great, and gives us really an opportunity to use the assets we have and whether that's Pandora, Stitcher or just our traditional SiriusXM satellite. We think it's great. And presumably, it will help with retention. It will help with upselling in terms of packages. So we really think – again, just to reiterate, it's a huge focus for the company and the management team and as evidenced by our OEM relationships.

Doug Mitchelson

Yes. It'll be interesting to see as it sort of develops how sort of churn ARPU, margins around that progress. When we turn to Pandora, certainly, one of the things that came out of last quarter was a little bit of MAU pressure. Do investors expect that to continue?

Sean Sullivan

Hard to say. I think they certainly have seen the trends, and we're investing a meaningful amount in terms of product development, content, feature sets. We're really trying to leverage the content spend of the overall company to better enhance the product. So again, it's a – I think it is the biggest free digital audio service in the United States. We're using our content to really drive it. You can see in the results. The monetization has been great from the ad sales team.

So I think there is some sentiment that the trends are declining. We're doing everything we can in terms of content, features, curation, discovery, to really mitigate and reverse the trend of MAUs. But at the end of the day, the monetization ad hours, RPM have been really positive. So we continue to be pleased with it. I think it brings a lot of digital learnings to the company that the SiriusXM side of the business can benefit from. So – but again, still more work to go.

Doug Mitchelson

Yes. We're trying to figure out whether it was sort of SiriusXM crossovers or more distribution partnerships like T-Mobile's ad free weekends, something else entirely maybe room to expand your initiatives with Live Nation, what else that you might do with Pandora? Anything sort of – where should investors focus on that front?

Sean Sullivan

Yes. I think they should focus on the reach and the scale of the Pandora audience, number one. Number two, I think, like I said, we the content investment we're making, I think we're now leveraging, take Kevin Hart as an example. We're starting to leverage the relationships we have with creators and talent to be able to bring exclusive experiences to the Pandora platform, right? We're trying to identify and enhance content getting younger audiences. The TikTok partnership is a great example of that on Pandora. So again, there is both the on-platform opportunity at Pandora, there is the off-platform opportunity. Again, we have a tremendous reach and scale. We now have a unified sales force that can go to the market to advertisers in agency and really bring to bear. So I think the scale brings a lot to us. In terms of Live Nation, I think somebody – obviously, Michael is on our board, and I think proximity matters. There is always opportunities to collaborate. I think live is important. I know I'm certainly excited for live events to return. So there is always opportunity. There is always opportunities to collaborate. But to your point, we did the ad weekend with T-Mobile. I think we're always looking for opportunities to – for better distribution with Pandora and other partnerships that can really enhance the product offering and either retain or attract new users. So all in all, a lot going on at Pandora.

Doug Mitchelson

Anything in the SoundCloud sort of ownership and partnership that investors should be paying attention to? Is that a real more behind the scenes?

Sean Sullivan

No, I think – as you know, we had an ad sales representation arrangement. So I think that, again, as part of the SXM media, we continue to enjoy a good partnership on the ad sales front and monetization. SoundCloud investment, I think it is an important one, but they have a different approach, right? They are an open music platform. They are more very focused on creators and discovery, and we're certainly happy with the investment on the Pandora side. We're more focused obviously on the ad side of it and monetization and come at it slightly differently. So – but again, a good relationship, but again, an investment with an ad sales rep at the moment.

Doug Mitchelson

So maybe you could help us sharpen our pencils on the advertising, which you sort of mentioned a couple of times. How much upside to advertising or advertising pricing do you see from the ad format changes? How much is left?

Sean Sullivan

I don't know how much is left. I mean certainly, and I'm sure the other participants in this conference have talked about the strength of the advertising marketplace. I indicated that coming out of Q1 that the demand continues to be strong. I think that the establishment of a unified sales force that allows us to monetize the available impressions across all of our platforms and opportunities is a great opportunity. So again, I used to answer that question, the video world, how high can CPMs go. Again, RPM very strong, sell-through very strong, demand very strong. We saw great growth, as you know, in the first quarter. I have high hopes that advertising, both on and off platform, ad representation deals that we've done with people like NBCU can really just continue to add to our reach and our scale and continue to drive growth for the company.

Doug Mitchelson

So Stitcher arrived at SiriusXM right about the same time you did. So how is the integration of the two companies going so far? What's the business case for Stitcher and how is that proving out in these early days?

Sean Sullivan

Yes. So that – I guess it closed in October, and the integration has gone well. We've got the sales team aligned with the rest of John Trimble's organization and Scott Greenstein on the content side. So, I think the integration has gone well in terms of product content and the ad sales side. I think the podcast is, again, a necessary and important offering for our consumers. It's also an important monetization opportunity for the creators of those podcasts. So as you know, we have got rep deals, and we have some exclusives and we have some that we distribute widely on Stitcher because we want to maximize the monetization for the creators. So all-in-all, it's going well. I think it provides a – with the – again, we are going to be disciplined. There is a lot of – certainly a lot of talk around podcast and certainly euphoric pursuit or whatever the right adjective is around these things. So we will be disciplined, but I think that we are thrilled to have Stitcher in the platform and the offering. And again, 99pi is a nice tuck-in acquisition, Doug, where we have got creators and podcast development so that we can move on and enhance not only things that we represent and monetize broadly, but also things that we own the IP too and can help develop new podcasts.

Doug Mitchelson

And so that excitement about podcasting and cause me to ask a couple of thoughts to that, if you don't mind. How is Stitcher Premium performing so far? What are your hopes for this business in the future?

Sean Sullivan

Yes. I mean a lot of people – I don't know a lot of people know that we are in the subscription business on podcast already with Stitcher Premium. So, it's going fine. It's small relative to the overall product and economic portrait of Stitcher and the business that we acquired. But again, it's going well. We are really, at the moment, Doug, focused on more of the monetization and ad-supported side of the house. I think we will continue to monitor and evaluate what role subscription podcast Stitcher Premium has in our offering. I think it's business as usual on Stitcher Premium. And as you know, we are starting to bring certain podcast to Pandora and even into the SiriusXM digital platform. So I think we are focused on distribution of podcast, monetization of podcast. And at the moment, I think Stitcher Premium and the subscription side of it is probably a less material portion of the overall portfolio of business.

Doug Mitchelson

You need more content, whether it's more podcasts in the network, whether it's audio books, live sports? And can you build it yourself or do you have to look for more tuck-in acquisitions?

Sean Sullivan

Yes, you never heard anybody in my chair say we have enough content. But no, in all serious is, I think we continue to monitor the landscape. We are looking for – I think there is a tremendous amount of organic opportunities with the talent relationships we have across the board. But we will monitor. But again, we are going to be disciplined. I think that we have a highly profitable cash-generative business. I don't know that everybody participates in the market with the same set of metrics or economic thresholds and intentions. But – so we will participate. We will look at things that really can enhance our strategic plan, but we will do it organically. I think our track record probably speaks for itself in terms of what we have done. I don't know that there is any holes necessarily in the offering. I think we have got a ton of sports, news, talk, etcetera, but we will always look for things that we think can differentiate really drive future engagement and retention, and all the obvious things, Doug. So, we will keep our eyes open to the overall landscape. But I think the key message is we are going to be disciplined in our approach. And we will let things go that we don't think make overall economic sense for our shareholders.

Doug Mitchelson

You mentioned advertising a few times. Do you have all the tools that you need on the advertising front? Is there more sort of arrows in the quiver and that would sort of help drive advertising? Do you have all the scale that you need or would scale enhance your ad capabilities?

Sean Sullivan

If we have an addressable audience over 150 million, I certainly think we have got the scale and the reach in terms of tools, whether it's simple cast, whether it's ads with, whether it's some of the programmatic work we are doing, I think our ad sales team believes we have the right set of assets. Probably the opportunity is to be more coordinated and enhanced as we continue to drive the advertising side. But no, I don't think there are any holes in the advertising offering. I think at the moment, it's really about execution for the team. And I think with the recent announcement, I think we are well situated.

Doug Mitchelson

So, I think we have covered broadcasting and content and ad platform, all which you mentioned upfront, out of the car and digital is something that we haven't spent a lot of time on. How is consumer engagement out of the car? And what's the strategy for continuing to push that forward?

Sean Sullivan

Yes. I mean I think the engagement is good. As we talked about it during the pandemic, I think that we had a real focus on connected devices and a focus on the car. I continue to be amazed by people that don't fully appreciate that they have the app or have the ability to have the app with their satellite service in the car. So, I think that people need to better appreciate the companion nature of it. I think engagement is good. I think you will see us continue to really drive efforts on the out of the car. I mean, I think our position in the car is strong, and we continue to be very focused on enhancing and maintaining that position in the car. But I think the real – like I said earlier, the big unlock, I think, is to really create more awareness and more adoption of not only using the app as a companion to your service, but being a standalone streaming. And again, that goes back to the product to ease of use and the content offering that we have in there. So, whether it's NFL or some of the additional digital rights we have acquired for the digital-only platform, I think that's a real positive as we look forward and a real focus of the management team, too. So I think that you said it well, the engagement and focus on the out of the car is again, like 360L is a real focus of the management team.

Doug Mitchelson

The – I think our capital deployment options sort of something else you certain hint it upfront, a lot of focus on multiyear strategy. And part of that is looking around concentrated owner in Liberty we forecast crossing 80% in the fourth quarter in terms of ownership. Do considerations change at the end of the year in terms of how you deploy capital and how much capital flexibility you might have? Is there – why don't we start with that?

Sean Sullivan

Yes. No, it's certainly a popular question, Doug, as we – on the March to 80%, a lot of people want to better understand it. I guess I don't really see that a lot changes. Just to reiterate, and I have said this a couple of times, we have – we are making significant investments in the business organically, right, whether that's product, whether that's content or otherwise, we will continue to do that. Two, we have shown the willingness and ability to acquire things, hopefully, we think, on a disciplined basis to enhance the offering. So those will continue to be, I think, 2 key tenets of our capital allocation policy and philosophy. As we – we have a dividend now. It's not a significant portion, as you know, of our free cash flow generation. And then we have been active in the share repurchase program. So as we get across 80%, I don't know that, that changes how we invest. Certainly, the characterization of whether it's a dividend or share repurchase or whether Liberty participates in the share repurchase are all topics that have been discussed on recent calls and conferences, and again, I am not being funny. I do think that it will be a Board level decision. But in terms of what our focus is and what really changes, I don't know that a lot changes in terms of the operational focus and driving growth and investment in the company. And again, I view the Liberty Media relationship is a real positive and one of the big reasons why I am here. So all-in-all, again, nothing more to say. The Board will make that decision and determination. We have got obviously a very – a great Board and a very capable Board. So probably, again, I will defer that one beyond July 27, probably to the end of the year, if not later.

Doug Mitchelson

Yes. And I am probably fishing and I am not going to get very far, but well, but from your standpoint, I think what's interesting about sort of the questions that get asked about this relationship is sort of thought of that ultimately, the companies will be together is for Liberty – for SiriusXM to undertake actions that would facilitate something would have to be to the benefit of SiriusXM equity shareholders. And you have got independent Board members that are going to make sure they are protected. And so I think 1 of the puzzle we are trying to figure out and we try to put the puzzle pieces together is what would be to the benefit of SiriusXM in accelerating a path to 90% or accelerating something more formal than just buying back stock in the open market? And that's the piece that, I guess, is a little bit less clear. Is there anything from your standpoint that you would say you look at this and SiriusXM benefits if A happens or B happens or C happens?

Sean Sullivan

I don't have anything to add to that, Doug. Again, we – as you said, you are going to fish in an empty pond here. But no, our focus is obviously on growth. And I think our interests are aligned with Liberty in that regard. So, we are going to continue to execute, drive the growth and focus on the things that are frankly in our control.

Doug Mitchelson

Industrial object combining terrestrial radio with satellite radio?

Sean Sullivan

I know that was long talked about in advance of my arrival. I guess, as I think about our business and our assets, we have got a big ad-supported free service with Pandora. We have teased the notion that maybe there is a free SiriusXM offering at some point. I guess the question and comment I would make is that in some respects, aren't we offering things that hopefully will take share potentially from terrestrial radio as opposed to the alternative of the industrial logic of combining them. So certainly, we are trying to focus on taking share over here. We think we have got offerings that can take share from terrestrial. So, that's really what we are focused on at the moment.

Doug Mitchelson

So, what's the right debt leverage fresh set of eyes here for the company. I ask because, again, Malone and Liberty has a fair amount of influence, and it wasn't that long ago Malone was running cable networks at 6x to 7x debt leverage. And I would argue, SIRI has a little more consistency in its results than those companies did, a little bit less has proven during the pandemic and strong margins. Interest rates are lower, tax rate is lower than back in those days. And so not depressed, but any reason a 4x or 5x debt leverage that we see from some of the cable operators couldn't be deemed appropriate at some point for this company?

Sean Sullivan

Yes. I am sure I could get advice where somebody would tell me that it is appropriate. But in all seriousness, I think that the company has historically said 4x as their target leverage, certainly have operated in the low to mid-3s. I think as evidenced by our bond offering we did early last week, I think we are in the optimal place in terms of our ability to access the capital markets. So, I don't see a reason to increase leverage to those levels and mimic what maybe some of the cable or cable network companies have done. So, I think we are very comfortable in the low to mid-3s in terms of where we are operating today. And I know there has been a historical view of 4x as the top end of that. But again, where we operate and how we behave is probably more an indicator of what the right amount of leverage is as opposed to pushing it. So, I wouldn't – you shouldn't expect to change, I guess, is my punch line.

Doug Mitchelson

How is the free cash flow progressing this year?

Sean Sullivan

Again, we will talk about the guidance probably on July 27 or at least how we are tracking relative to it. But again, I will reiterate that the first quarter was positive. I think a lot of the touch points in the market that we talked about today, Doug, are generally positive for sure. So, I am certainly pleased 8 months into it in terms of where Jennifer and I have the company and where we are tracking. So, certainly pleased.

Doug Mitchelson

So Sean, we covered a lot of ground. What did I miss? What didn't we cover? Any closing thoughts you want to leave us with.

Sean Sullivan

I don't know I missed anything. Again, really focused on delivering '21, really setting this business up for the next 3 years to 5 years. And a fresh set of eyes and perspectives, I think hopefully will help. The transition with Jennifer has gone great. Obviously, continue to rely heavily on the Board. But all-in-all, I couldn't be pleased – more pleased to be here. I think there is a great opportunity in the car, there is a great opportunity out of the car. And certainly, we are focused on both of those. And I am really excited.

Doug Mitchelson

Alright, Sean. Thanks so much for being here. Thanks for participating, and thanks, everyone, for listening in.

Sean Sullivan

Alright, Doug. Thanks. Be well.

3 Comments

Comments

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03 October 2018, 09:38 (EDT)

SoundCloud Selects Pandora as Ad Sales Partner in the U.S.

The two companies reach an ad audience of more than 100M, creating largest digital audio advertising marketplace in the U.S.

SoundCloud, the world's largest open audio platform, and Pandora (NYSE:P), the largest streaming music service in the United States, today announced that SoundCloud has partnered with Pandora as its exclusive U.S. advertising and sales representation. Launching in 2019, the agreement will enable advertisers and brands to purchase SoundCloud's U.S. ad inventory directly through Pandora, leveraging the company's direct sales capabilities, targeting data, and its recently launched audio programmatic product.

Digital audio advertising grew 40% in 2017 to $1.6B according to IAB, and is becoming an increasingly important medium to reach consumers, thanks to the proliferation of voice-enabled apps and devices. Together, SoundCloud and Pandora's combined U.S. audience offering reaches more than 100M unduplicated listeners -- with 13% audience overlap between the two companies -- making it easier for advertisers and brands to access the largest digital audio advertising marketplace.

"Pandora and SoundCloud's combined audience offering creates the clear market leader for brands to reach U.S. music fans," said Kerry Trainor, Chief Executive Officer, SoundCloud. "Through this partnership, we gain access to Pandora's world-class sales team and capabilities to connect more brands with our young, highly engaged users who know what's next in music is first on SoundCloud."

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“This partnership is a fantastic match between Pandora's industry-leading ability to monetize digital audio and SoundCloud's large audience and vibrant community of U.S. listeners," said Roger Lynch, Chief Executive Officer of Pandora. "Investments we’ve been making in our ad capabilities, including the recent acquisition of AdsWizz, further solidify Pandora’s commitment to help publishers monetize the rapidly growing digital audio market."

The new agreement expands SoundCloud’s existing global relationship with AdsWizz and is part of Pandora’s broader strategy to help publishers monetize digital audio as well as other formats of inventory—including video—more effectively.

ABOUT SOUNDCLOUD

SoundCloud is the world’s largest open audio platform, powered by a connected community of creators, listeners and curators on the pulse of what's new, now and next in culture. Founded in 2007, SoundCloud’s mission is to empower the world’s audio creators with the best tools, services and resources to build and grow their careers. With over 180 million tracks and 10 million creators heard each month across 190 countries, what’s next in music is first on SoundCloud.

ABOUT PANDORA

Pandora is the world’s most powerful music discovery platform – a place where artists find their fans and listeners find music they love. We are driven by a single purpose: unleashing the infinite power of music by connecting artists and fans, whether through earbuds, car speakers, live on stage or anywhere fans want to experience it. Our team of highly trained musicologists analyzes hundreds of attributes for each recording which powers our proprietary Music Genome Project®, delivering billions of hours of personalized music tailored to the tastes of each music listener, full of discovery, making artist/fan connections at an unprecedented scale. Founded by musicians, Pandora empowers artists with valuable data and tools to help grow their careers and connect with their fans.

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SoundCloud

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UNITED STATES DISTRICT COURT
SOUTHERN DISTRICT OF NEW YORK

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IN RE PETITION OF PANDORA MEDIA, INC. 12 CV 8035 (DLC)

----------x

Related to

UNITED STATES OF AMERICA,

Plaintiff,

v. 41 CV 1395 (DLC)

AMERICAN SOCIETY OF COMPOSERS, AUTHORS AND PUBLISHERS,

Defendant.

----------x

New York, N.Y.
January 29, 2014
9:30 a.m.

Before:

HON. DENISE COTE,

District Judge

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Q. Then let's focus just on the iTunes Radio Service.
A. Okay.
Q. That business is similar to Pandora, is it not?
A. I believe it is.
Q. And "use music in similar ways." ITunes Radio and Pandora use music in similar ways, right?
A. Apple's use of the music and the iTunes Radio Service goes well beyond the benefits it gets just from iTunes Radio. So I'm having a hard time separating iTunes Radio from Apple.
Q. So you didn't consider whether the iTunes Radio Service was similarly situated to Pandora?
A. I didn't reach a conclusion about that.
Q. And you're not disputing, are you, that the iTunes Radio Service is in all material respects similar to Pandora, right?
A. But for the complementary revenue streams that flow to Apple, I think they probably would be similarly situated.
Q. So your conclusion rests on that issue of the complementary revenue streams, correct?
A. Yes.
Q. Now, is it true that both iTunes Radio and Pandora are advertising-supported services?
A. Well, Pandora is most-- predominantly advertising supported and iTunes Radio has advertising.
Q. And also has a service for free that's available to

subscribers, right?
A. Yes. It's more complicated than just iTunes Radio, but, yes.
Q. I'm trying to focus on iTunes Radio now.
A. Okay.
Q. You understand that Pandora has listeners who listen to an ad-supported service and it has subscribers who listen on an ad-free basis to Pandora, right?
A. Yes.
Q. And Apple has an advertising-supported service, Apple's iTunes Radio, and subscribers who listen on an ad-free basis, right?
A. Yes.
Q. Now, they offer, in fact, nearly identical customized radio products to listen to, don't they?
A. Well, the way the user interacts with the website, that's very similar. The engines behind it are different. I think iTunes Radio is new. I don't know --
Q. Okay. And I wasn't asking whether the iTunes' algorithm, whatever that is, is exactly the same as Music Genome. But from a customer, a listener, perspective, they operate in similar ways, right?
A. I just don't know whether the quality would be the same, but certainly user-- the way the listener interacts with the website, that kind of thing is very similar.

Q. Now, at the time of your deposition, you told me you had not been able to access iTunes Radio.

Before writing this report, had you actually accessed iTunes Radio?

A. I have.

Q. Okay. And you know it's a customized music service, right?

A. I hadn't accessed it personally. I had stood behind somebody who was using it before, so I had seen it before. But have I actually been able to do it myself? No.

Q. Do you have any evidence -- evidence -- that Apple is not attempting to maximize the revenue that it's earning from advertising on its iTunes Radio Service?

A. Well, I assume it's trying to maximize its overall profits. That's what the shareholders would want.

Q. I'm asking a different question. I'm focused only on the advertising revenue on the iTunes Radio Service.

You understand they sell advertising, right?

A. Yes.

Q. And they compete with Pandora for advertisers, right?

A. Yes.

Q. Do you have any evidence to suggest that Apple is not attempting to maximize its advertising revenues on its iTunes Radio Service?

A. Well, absolutely. All the complementary revenue streams--

when you have complementary products, if you're going to maximize your profits overall, you wouldn't be maximizing the revenue streams on each individual one. That's the nature of having complementary revenue streams.

Q. And what is it that Apple is not doing with respect to selling advertising that's preventing it from maximizing its advertising revenues?

A. Well, I presume it's using iTunes Radio to best maximize the overall profits of the business. So using it to promote hardware sales, its iTunes Match service, music downloads. And that might make it behave differently in terms of the types of advertising, the number of minutes of advertising it sells.

Q. I understand it might, but what I'm focused on are facts.

Do you have facts to report to the Court that demonstrate that iTunes Radio is not attempting to maximize its advertising revenue? Yes or no?

A. No.

Q. Now, your view of an appropriate revenue base for iTunes Radio is that it should include ancillary products, right? The sale-- some of this revenue from ancillary services and products?

A. Okay. When you say-- no.

Q. Okay. What is your view of the appropriate revenue base for Apple?

A. It may-- when you're trying to figure out the right revenue

base to use for a license, it may be that the best revenue base to use is just that advertising because it's easy to measure, it's well defined. But the rate that you then apply to that revenue base would need to take into account whether the music used is generating other revenue streams for Apple.

Q. Right. And that's not a calculation that you have performed, is it?

A. No. It's not a calculation I have performed. Sorry.

Q. And I just want to make sure that this is not limited to Apple. Let's just assume, hypothetically, Verizon Wireless started a music streaming service that was licensed at the Apple rate. Same rate as the Apple rate.

Would it be your testimony that that rate would not be appropriate for Pandora because Verizon also sells cell phones and data plans?

A. I would have to look at it, but I suspect the same kind of issues might arise.

Q. So you're not willing to use any rate from a music user that has ancillary revenues, right?

A. Oh, no, I'd be happy to use it if I felt I could adjust it appropriately.

Q. Okay. And you don't think you could adjust the Apple rate appropriately. Correct?

A. Correct.

Q. And you didn't make any effort to do it, did you?

A. I didn't feel like I had the data to even begin to adjust for things like hardware sales and downloads.

Q. Right.

Did you try to obtain any information that would allow you to adjust the Apple rate?

A. I asked my staff whether such information was available in the record. I understand that it's not.

Q. So you did nothing, right?

A. I did no calculation.

Q. Now, would you look at paragraph 43 in your Apple section?

A. I'm there.

Q. Okay. You say that "Evidence suggests" --

THE COURT: Could you hold on one minute, Counselor?

MR. COHEN: Of course, your Honor.

THE COURT: Thank you.

Q. You say, in paragraph 43, "Evidence suggests that the necessary conditions to reflect a competitive fair market value were not met in Apple's negotiations with the publishers and PROs. Time considerations may have placed Apple under pressure to rapidly conclude a deal with ASCAP (and withdrawing publishers), casting still further doubt on whether its licenses reflect 'fair market value.'" Right?

A. Yes.

Q. You don't have the first fact, do you, about those negotiations?

COEX-8.72

Apple Music & Privacy

Apple Music is designed to protect your information and enable you to choose what you share.

- Apple collects information about your Apple Music activity, such as the songs you play and how long you play them, to personalize the service when you are subscribed or enrolled in a preview of our services, send you notifications, and compensate our partners.
- Your cloud library sends information from your music library to Apple, such as song and artist names, to identify and unlock copies of any of your songs that are also available in Apple Music.
- We associate your cloud library information with you for as long as you remain subscribed and for a short time after. We retain records of the songs you play for the periods specified by applicable laws relating to financial reporting.
- To help identify and prevent fraud, information about how you use your device, including the approximate number of phone calls or emails you send and receive, will be used to compute a device trust score when you attempt a purchase. The submissions are designed so Apple cannot learn the real values on your device. The scores are stored for a fixed time on our servers.

Protecting the privacy and security of your information is a priority for everyone at Apple. We work hard to collect only the data we need to make your experience better, and when we do collect data we believe it's important for you to know what we're collecting and why we need it, so you can make informed choices. Apple Music, like every Apple product and service, is designed with these principles in mind.

We use your personal information to provide the services and features in Apple Music. This information includes your account and payment information, which you can access and change in Settings or System Preferences.

When you subscribe, Apple collects information about how you use Apple Music in order to tailor features to your musical tastes. These features include Listen Now, where you see albums and playlists picked for you, and Radio, which plays selections from your favorite artists and genres. We also use this information so that we can contact you by email and push notification about upcoming releases, new artists, and other happenings on Apple Music that you may like.

When you participate in a preview of our services, Apple collects information about how you use Apple Music and may use this information in order to tailor your experience.

If you want to connect or share with other people using Apple Music, you can create a personal profile by providing a user handle (for example, @johnappleseed), display name, and, if desired, a profile photo and other information. Apple stores this information with your account so that you can access it from any of

your devices. Your user handle, display name, and profile photo can appear alongside any content you post and activity that you share on Apple Music. Sharing and posting content are not currently intended for or available to Apple IDs for children.

Other people may also be able to find your Apple Music profile using the information that you've provided.

You can make the contents of your profile, like listening activity and playlists, available only to those you choose. However, your profile information, such as handle, display name, photo, your followers, and who you are following, are always visible to everyone.

When you create a profile on Apple Music, we will recommend other Apple Music subscribers with whom you may want to connect as friends. Apple does not learn or store information from your contacts when checking for friends to recommend. Only shortened and encrypted hashes of the phone numbers and email addresses in your contacts are sent to Apple, and then matching Apple Music subscribers to be recommended are determined locally on your device. Apple Music can periodically check your contacts to recommend new friends in the future; you can control this in Account Settings by disabling Contacts on Apple Music. If you do not want to be found by others based on the Apple ID contact information they may have about you in their contacts, you can change this in Account Settings by disabling Allow Finding by Apple ID.

Information that you provide in your profile may be updated or removed by you at any time. Whenever you share online, you should think carefully about what you are making public. When you share from Apple Music to other websites or social networks, anything you share is governed by the privacy policies of those other services.

If your mobile network provider offers Apple Music memberships and free trials, Apple may check your phone number to determine if you are eligible through a mobile network provider partner. If you signed up through your mobile network provider, your phone number is used to identify your account and to let the mobile network provider know that you have activated your membership. We will use the phone number associated with your membership to verify your account at sign in and to connect your Apple Music activity with your account. We also use your phone number to request cancellation of your membership with your mobile network provider at your request.

Your cloud library, which is a benefit of your Apple Music membership, allows you to have access to the songs and playlists in your library from any of your devices. This feature sends information from your music library to Apple, such as song and artist names, in order to identify and unlock copies of any of your songs that are also available in Apple Music. Any songs that can't be found in Apple Music are uploaded to your personal cloud library, so that you can have access to your complete collection from any of your devices. To stop syncing your cloud library on iOS and iPadOS, go to Settings > Music and tap to turn off Sync Library. On Mac, open Apple Music and go to Preferences > General, then deselect Sync Library.

When you use your Apple Music membership, we collect information about the songs and videos you play or add to your music library or playlists, and the content you love, comment or share. Information such as the account, IP address, and device, app, or car interface you used to play, where in Apple Music you were when you played it, the time you played it, and for how long is noted and sent to Apple. We use this information to customize your Apple Music experience, to send you emails and notifications, and to help us understand how Apple Music is being used so we may improve it. For example, this information can help us pick the music, videos, and artist content that we show you in Listen Now and Radio. It also allows us to make other recommendations to you that reflect your tastes, create city charts to show you trending music by city, pay royalties and prevent or take action against activities that are, or may be, in breach of the Apple Media Services Terms and Conditions or applicable law.

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Family Sharing group, Apple may send you communications about products, services, and offers available to you through Family Sharing. If you purchase an Apple One subscription, we may send you emails and push notifications about the features of each of the services for which you have subscribed. Apple may also use information about your activity within Apple Music to send you emails and push notifications about new features, content, and offers available in Apple Music. You can change your email preferences and opt out of receiving these emails by going to appleid.apple.com. To update your notification preferences on iOS and iPadOS, go to Settings > Notifications > Music. On Mac, open Apple Music and go to Preferences > General > Notifications.

Some Apple Music features, such as certain broadcast radio stations, may not be available in your region. Apple may use the IP address of your Internet connection to approximate your location and determine availability.

We also compute a device trust score on your device when you attempt a purchase using information about how you use your device, including the approximate number of phone calls or emails you send and receive. The submission is designed so Apple cannot learn the underlying values on your device. The score is stored for a fixed time on our servers.

We may collect, use, transfer, and disclose non-personal information for any purpose. For example, we may aggregate your non-personal information with that of other Apple Music users in order to improve the service. We may also collect certain performance metrics from your device when you use Apple Music, including radio frequency strength, country code, network code, and cellular radio access technology.

At all times, information collected by Apple will be treated in accordance with Apple's Privacy Policy, which can be found at www.apple.com/privacy

Disclosure to Third Parties

When you use Apple Music to listen to broadcast radio, your device connects directly to the broadcast radio station to provide you the requested content. When it connects, your device's IP address will be visible to the broadcast radio station. The handling of your IP address by the broadcast radio station is governed by the privacy policies of the broadcast radio station or its provider.

We are obligated to provide some aggregated non-personal information about the use of Apple Music, as well as aggregated user demographics such as age group and gender (which may be inferred from information such as your name and salutation in your Apple ID account), to record labels, publishers, and artists so that they can measure the performance of their creative work and meet royalty and accounting requirements. In addition, we share aggregated listening activity with chart compilers for music charts around the world and with music marketing platforms that help labels and artists reach listeners. In order to determine your subscription eligibility if you subscribe through a third-party partner like a mobile network provider, or to complete your purchase, we share limited personally identifiable information with that partner.

iOS and iPadOS apps may request access to Apple Music and your cloud library. If you give such permission to an app, it can access information like your cloud library on device, whether you are an Apple Music subscriber, your music and video play activity, and your Listen Now recommendations. A permitted app can also modify data associated with your account, such as which songs are in your library and playlists. You can disable an app's access on your iOS or iPadOS device by going to Settings > Privacy > Media & Apple Music. On Mac, go to System Preferences > Privacy > Media & Apple Music. If you have removed the app or granted an app access using a version of iOS prior to iOS 11 or iPadOS, you can disable its access in your Apple Music account settings.

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Spotify $1.3bn debt funding is ‘for general corporate purposes’

musically.com/2021/02/25/spotify-1-3bn-debt-funding-is-for-general-corporate-purposes/

Tags: Financials Spotify

Spotify’s management team talked about a lot of things in the company’s ‘Stream On’ event earlier this week, but one announcement was saved for later. Yesterday the streaming services announced plans for an ‘exchangeable senior notes offering‘ from its US subsidiary to raise $1.3bn.

It’s debt funding, essentially. “The notes will be senior, unsecured obligations of Spotify USA, will accrue interest, if any, payable semi-annually in arrears and will mature on March 15, 2026, unless earlier repurchased, redeemed or exchanged,” explained Spotify. Investors will be able to exchange the notes for cash, Spotify shares or a combination of the two, but not until after 20 March 2024.

What does Spotify need $1.3bn for? “Spotify USA intends to use the net proceeds from the offering for general corporate purposes,” is all the announcement says. Note, according to Spotify’s latest financial results, the company ended 2020 with “€1.8 billion in cash and cash equivalents, restricted cash, and short term investments and no indebtedness”.

The last two words are key there: Spotify had no debt on its balance sheet, a position that enabled it to take on debt now for… purposes. Let the speculation begin about whether those purposes include something big in the near future: what might Spotify be interested in buying that costs a few hundred million dollars – or even a big-splash acquisition of a $1bn+ unicorn?

Stuart Dredge

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Tim Cook: We're not doing Apple Music for the money

cultofmac.com/568547/tim-cook-were-not-doing-apple-music-for-the-money/

By Luke Dormehl August 8, 2018

In a short interview for *Fast Company*, Tim Cook raves about his love of music, and talks about Apple's reasons for getting into the space with Apple Music.

"I couldn't make it through a workout without music," Cook said. "Music inspires, it motivates. It's also the thing at night that helps quiet me. I think it's better than any medicine."

Cook also echoes a regular theme when Apple talks about its rivals in music distribution: the lack of focus on human curation that other services provide. "We worry about the humanity being drained out of music, about it becoming a bits-and-bytes kind of world instead of the art and craft," Cook said.

Music as a loss leader

While the interview is a brief one, perhaps the most interesting point he makes is the suggestion that Apple looks at music like a loss leader. "We're not in it for the money," he said.

Sure, it's possible to naively write this off as Apple just being really in love with the idea of helping people find music. However, for my money it sounds like a shot at rivals such as Spotify, who continue to lose money hand-over-fist as they pursue streaming music.

Apple, on the other hand, can use Apple Music to get more people into the Apple ecosystem, and provide extra incentive for them to stay. With so much cash on hand, Apple can basically afford to play a war of attrition in this arena, and others simply aren't going to be able to compete long-term since they're required to, well, actually turn a profit.

In May this year, Apple announced that Apple Music has passed the 50 million active user mark. Spotify, by comparison, had around 83 million subscribers by the end of June.

Source: *Fast Company*

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Written evidence submitted by MIDiA Research

Economics of Music Streaming Inquiry
Author: Mark Mulligan
November 2020

Introduction

Launched in 2015, MIDiA Research is a UK-based entertainment intelligence company that is focused on the intersection of media and technology. Our core specialism is the music industry and our paid subscriber base includes most of the key players in the sector. We take an objective, non-partisan, cross-value-chain approach and are fortunate to be widely recognised as the leading source for music business analysis. We hope that MIDiA's submission, adhering to this non-partisan approach will provide a valuable and authoritative addition to other submissions received.

We understand that many submissions to this inquiry will present similar sets of information and data, including some of MIDiA's own. To avoid repetition, we will, within the terms of reference, focus, on a few fundamental themes that may not be covered in detail elsewhere:

- Growth of independents (labels and artists)
- Consumer behaviour
- Consumption trends
- Income flows

Key insights

- Streaming returned the UK recorded music business to growth but incentivised consumption over all else, creating unintended value-chain consequences
- Streaming is dominated by a few key players, with big US technology companies centre stage
- Streaming services and large rights holders benefit from scale but creators less so
- Streaming catalysed a democratisation process resulting in a surge in independent creators
- Now, as streaming matures, the UK industry should be actively developing alternative, complementary models

What are the dominant business models of the platforms that offer music streaming as a service?

The music streaming market lacks differentiation and is consolidated around a few key players. This is a direct consequence of the licensing power of the three major music labels. By the end of 2019, the three majors claimed 67.5% of the global recorded music market. Although this market share is overstated, as it includes the revenue of independent labels that the major music companies distribute, it is the measure that they use for licensing negotiations. The net effect is that each major has the equivalent power of a UN Security Council veto. Few music services have had success launching without all three major labels licensed.

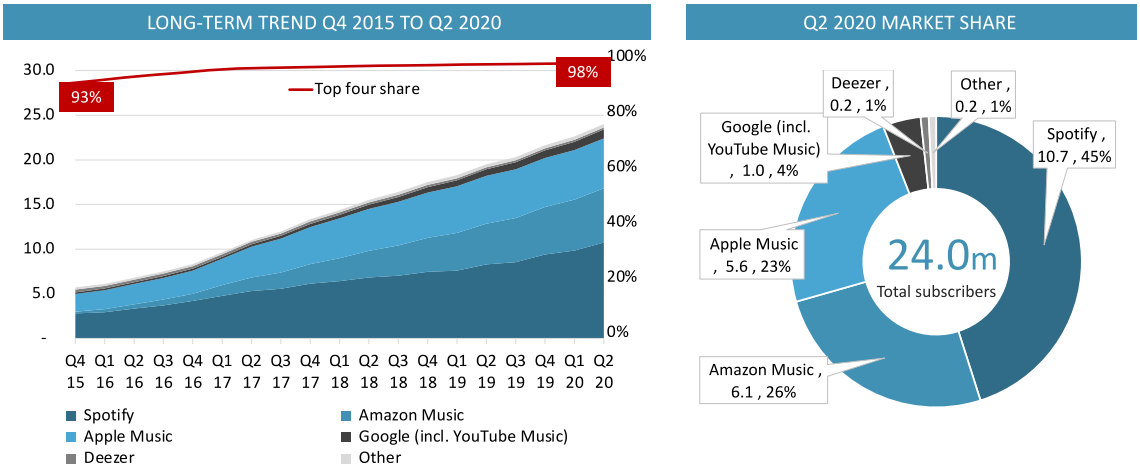
This concentration of power has resulted in a conservative approach to innovation. Most streaming services have very similar products, pricing and catalogue. This contrasts sharply with the video streaming market, which is characterised by diversity of offers and pricing, and where rights holder market share is more evenly distributed.

While there has been some welcome innovation, such as multi-user price plans, smart speaker support and bundles such as Apple One and Amazon Prime, these are relatively minor tweaks to a model that has remained largely unchanged in over a decade.

The approach has affected UK businesses. In the mid-2000s a number of UK start-ups (MusicQubed, Blinkbox, Psonar) identified the opportunity for mid-priced, curated streaming platforms to reach audiences beyond the £9.99 services. The record labels were cautious, providing licences that were too narrow to drive strong consumer demand. There was an opportunity for UK businesses to take a lead in streaming innovation, but instead they failed with under-powered products.

The UK music subscriber market has become increasingly consolidated around the top four services, three of which are owned by US tech majors

Music subscribers and market share by streaming service, UK



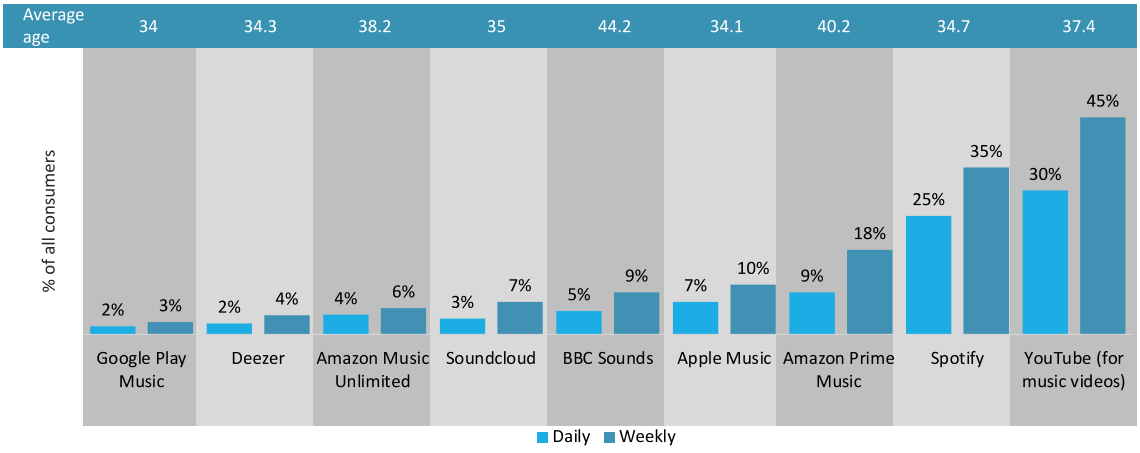
Source: MIDiA Research Music Subscriber Market Shares Model

MIDiA Research

Music streaming also needs more corporate diversity. The top four streaming services increased their share of UK subscribers from 93% in Q4 2015 to 98% in Q2 2020. Of those four, only Spotify is independent, and the remainder are all owned and operated by one of the US-based, global tech majors (Amazon, Apple, Alphabet). Each uses music as a means to achieve ulterior strategic objectives.

YouTube and Spotify dominate music streaming app usage while the majority of remaining activity is fragmented

Weekly active and daily active users of leading audio apps, Q2 2020, UK



Source: MIDiA Research Music Brand Tracker (06/20) UK n = 1,000

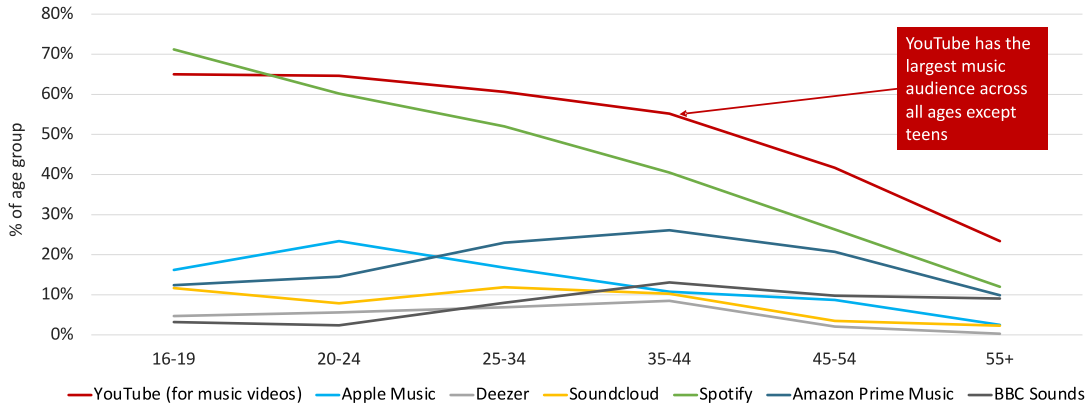
MIDiA Research

Although Alphabet is only fourth placed in subscriber terms, its YouTube platform dominates music consumption in the UK as it does globally. 45% of UK consumers aged 16+ use YouTube weekly for music, ten points ahead of the leading music subscription service

Spotify. The remainder of the streaming audience is fragmented across a long tail of services. The BBC's Sounds app has quickly established itself as a strong mid-tier audio app, but still lags far behind the leaders and does not have full, on-demand licences like the other leading services.

Spotify and YouTube dominate music streaming consumption among under 44s

Leading music streaming app weekly active user penetration, Q2 2020, UK



Source: MIDiA Research Music Brand Tracker (06/20) UK n = 1,000

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YouTube's dominant role is even more pronounced in demographic terms. Although teens are slightly more likely to use Spotify weekly, all other age groups skew strongly towards YouTube. Although YouTube has made strong progress driving subscriptions in recent years, it is predominantly an ad-supported proposition. It also has a larger catalogue than most audio streaming services and includes many additional features, such as video, comments, and likes/dislikes. YouTube's free offer is thus a more fully-featured service than most of the paid-for competition.

YouTube has a very different licensing position than most other streaming services. In simplistic terms, it seeks licences for music it already hosts while other services negotiate to acquire catalogue to stream. Rights holders do not favour this position and are actively seeking to normalise the situation via the EU's Digital Copyright Directive. The negative side for rights holders and creators is that YouTube pays less per stream than other streaming services. The positive side is that it has developed a differentiated product with true scale. In the process, it has become a crucial tool in music marketing and discovery. YouTube is second only to radio among UK consumers as the destination for discovering new music. Record labels spend hundreds of millions of pounds, globally, to promote their music on YouTube.

Business models

All subscription services operate on the same basic model: monetise through subscriptions and pay rights holders approximately 70% of premium revenues, allocated on a consumption basis. Spotify has the most incentive to reduce royalty rates, being one of the few companies reliant upon music as its core driver of revenue and profits. Spotify has spent

most of its existence operating at a loss. The tech majors (Amazon, Apple, Alphabet and Facebook) can afford to loss lead with streaming and even have an incentive to over-pay for rights, a strategy that could damage Spotify's commercial sustainability. The question is whether they would maintain such a strategy if a strong independent player was no longer in the market.

The two biggest business model differences are:

- Advertising: Spotify and Deezer pay rights holders a minimum rate per ad-supported stream, and more if ad revenue reaches pre-defined thresholds. This means that even if Spotify or Deezer do not sell advertising against a song, they still pay rights holders. YouTube, conversely, pays a fixed share of its revenue to rights holders. The former model guarantees a level of royalty income but damages commercial sustainability as, a) advertising rates are seasonal, and b) advertisers do not value all songs equally, even though rights holders do.

- Adjacent businesses: As Spotify can only negotiate licensing rates down so far, it must find other profit drivers to satisfy demanding investors. Initially, it tried releasing artists directly, but faced strong opposition from labels so backed away from that move. Now, it is pursuing podcasts and selling promotional tools to labels. Spotify is now the most widely-visited UK podcast destination, used by 37% of podcast listeners. Both business lines antagonise rights holders as, a) podcasts risk diluting music listening and therefore royalties, and b) labels do not feel they should pay to reach fans. Spotify relies upon advertising to monetise podcasts but has a poor record of selling ads. Ad revenue was only 8% of Spotify's income in the first three quarters of 2020, with podcast ad revenue only around 10% of that.

In conclusion, the dominant business models of streaming services are subscriptions and advertising, both routinely delivering low or negative net margins. Innovation will either operate within current licensing models (e.g. high-definition audio, increased prices) or go entirely outside of music (e.g. podcasts). Notably, Amazon is pursuing both approaches.

Have new features associated with streaming platforms, such as algorithmic curation of music or company playlists, influenced consumer habits, tastes, etc.?

Streaming is changing how people listen to music, and in turn is shaping how music is made. This cultural circle of influence may prove to be one of the most significant long-term legacies of streaming.

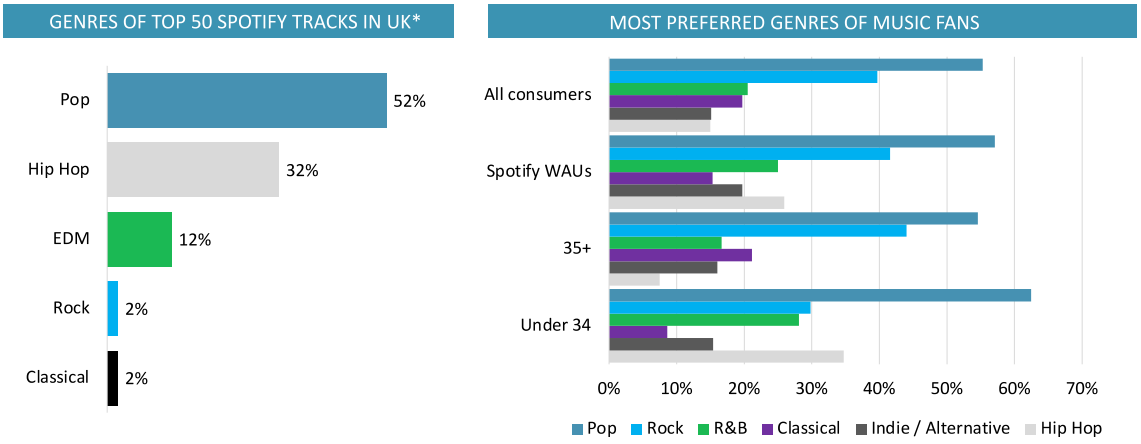
Pre-streaming music consumption was divided into two main categories:

1. Radio: passive, lean-back listening – low-spending mainstream
2. Retail: lean-forward, selective acquisition – higher-spending fans

Streaming fused these two categories. As streaming services have innovated around personalisation, curation and programming, lean-back listening has grown.

Programming, curation, algorithms and lean-back listening are turning streaming into a genre microclimate

Genres of top 50 Spotify tracks in the UK and consumers' top six most preferred music genres, UK



MIDiA Research Consumer Survey Q2 2020, UK n = 1,000
*Spotify top 50 UK tracks 11/11/20

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There is a causal relationship between streaming curation, and record label A&R and marketing. Both sets of creatives are exposed to similar cultural stimuli and often mix in similar social circles. Moreover, record labels sign and promote music which they think streaming curators will select and promote. This second circle of cultural influence has made streaming a genre microclimate. Among UK consumers rock is the second most liked music genre, yet it only accounted for 2% of the top 50 Spotify tracks in the UK in early November 2020. Hip hop was the second biggest genre in the Spotify top 50, yet ranks sixth for all UK consumers and third for Spotify weekly users. The Spotify top 50 resembles radio programming, further illustrating the move to lean-back listening.

The song economy

Streaming accelerated the pre-existing consumption shift from albums to songs, transforming the modern music business into a song economy.

Streaming's *modus operandi* is to deliver large quantities of targeted new music to listeners. Labels feed the cycle by releasing larger volumes of new music to maintain market share. Audiences thus consume growing volumes of music, often passively, rather than spending time with individual artists, making it hard for artists to build fanbases. Music is becoming sonic wallpaper, favouring the streaming services rather than artists or labels.

As subscription royalties are paid as a share of a fixed pot, and ad revenue was just 13% of UK streaming revenues in 2019, streaming services are incentivised to drive consumption, which has had the effect of making music a passive, background app behaviour. This dilutes engagement and fan passion. Artists need a creator economy; streaming favours a song economy.

The creator economy

The rise of the independent sector is one of the most positive streaming-driven trends. This segment is defined as:

1. Independent labels
2. Independent artists that own their masters, using labels as service partners
3. Independent artists that release directly without a label

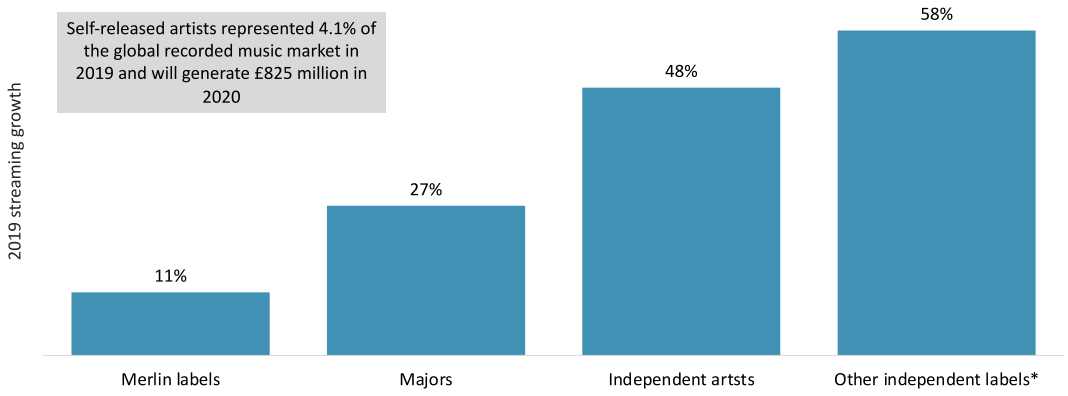
The third group is the most dynamic of all, growing faster than any other sector in the global recorded music business, up 32% in 2019 to reach 4.1% of all revenues. The total market grew by 11.4%. Growth accelerated further in the first three quarters of 2020 and should total £825 million globally for the full year.

Globally, there were 4.7 million self-releasing artists by Q3 2020, of which around 340,000 were from the UK.

We are entering a new era for the music business, with independent artists and new small labels capitalising upon the democratised access to means of production and distribution. Companies like Apple and Ableton provide aspiring creators with affordable, studio-quality music production software. Apple's £200 software programme Logic Pro is used by globally successful artists like Billie Eilish and Kylie Minogue. Meanwhile, distribution tools like Soundcloud, YouTube, TuneCore and Amuse enable independent creators to reach global audiences.

The independent sector dominated streaming growth on Spotify in 2019

Annual Spotify streaming growth (volumes) by type of label, 2019, Global



*Includes library music companies
Source: Spotify Annual report / MIDiA Research

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The wider streaming economy is levelling the playing field for aspiring artists. In 2019, independent artists increased global Spotify streams 40%, compared to 27% for major label artists. However, this is not just about major labels; it is about old versus new. Independent labels distributed by Merlin (which tend to be older, more established labels) only grew by

11% while other independents (which tend to be newer) grew by 58%. Small labels and artists born into streaming have learned how to make the system work for them.

The unintended consequence of the rise of independents is the dilution of streaming royalties. Streams are divided among more artists so while total royalties grow, the average income per artist falls. This is the price of democratisation. Creators need other ways to benefit from the streaming economy and the growth of their audiences. Monetising superfans on platforms such as Twitch represents an alternative approach.

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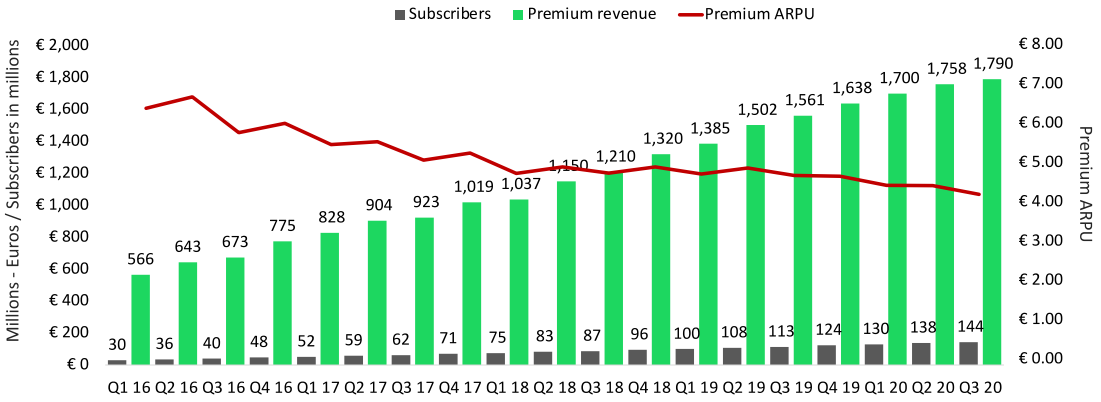
What have been the economic impacts and long-term implications of streaming on the music industry, including for artists, record labels, record shops, etc.?

Streaming returned the global and UK recorded music industries to growth. UK recorded music revenues were £1.8 billion in 2019 in retail terms, up 10% from 2018 with streaming 64% of the total. UK revenues grew for four successive years up to 2019. Previously, traditional formats declined more quickly than streaming grew. MIDiA forecasts UK retail recorded revenues will reach £2.5 billion in 2027, with streaming accounting for 84%.

Spotify's long-term subscriber growth remains strong but is outpacing revenue, resulting in a long-term ARPU decline

Spotify premium revenue, subscribers and ARPU, Q1 2016 to Q3 2020, global



Source: Spotify earnings / MIDiA Research

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Although total revenues have grown, many creators and rights holders feel that they are not earning enough from streaming. The song economy and the fragmentation of streams are key factors, but matters are compounded by declining stream rates. Between Q1 2016 and Q3 2020, Spotify reported subscriber ARPU falling from €6.38 to €4.19, a 34% decline. Lower ARPU means lower stream rates. This dynamic is a trend driven by:

- Promotional trials, e.g. £1 for three months trial
- Multi-user subscriber plans, e.g. Family Plan
- Discounted tiers, e.g. Student Plan, mobile phone operator bundles
- Lower ARPU emerging markets

As Western markets reach maturity, ARPU will recover but emerging markets' growth will increase pressure on stream rates for UK artists earning overseas.

In addition, headline subscription prices have remained at £9.99. On a global basis, accounting for inflation, this reflects a 34% decline in real terms between 2009 and 2019.

There is clearly a case for increasing consumer prices, and MIDiA's work in this space indicates there is consumer tolerance. It is important to note, though, that even a £2

increase would not meaningfully offset the wider effects of streaming economics for creators.

Creator income

Perhaps the most important aspect that artists and songwriters must grasp is that streaming represents a shift from the sales model shaped by large single payments, to an annuity model that spreads income over time and in which less popular songs deliver less income.

Prior to COVID-19 disrupting live music, artists benefited from a network effect, with streaming allowing more people to listen to their music, driving bigger live audiences and more merchandise sales – segments where many artists earn most of their income. Once live stopped, artists became more sensitive to streaming royalties, leading to the rise of the #brokenrecord debate. Professional songwriters have long endured this, unable to sell t-shirts or perform live, and will still feel the same once live recovers.

Income flows

Artists and songwriters all earn different shares of streaming revenue because of their rights holder relationships. These are some key variables:

Artists

- Royalty share: Can range from 10% up to 80% and above depending on the deal structure (e.g. label services, distribution only)
- Recoupment: Many artists, especially on major labels, are typically paid advances on future earnings. Royalty payments are only made when costs (e.g. recording, marketing) are recouped. Traditionally, roughly nine out of 10 major label artists do not recoup
- Intermediaries: Other entities can share revenue. Some take a share of the gross (e.g. distributors) while others take a share of the net (e.g. managers)

Songwriters

- Royalty share: Publishers typically pay a larger share to songwriters than labels to artists, often around 60–80%
- Recoupment: Publishers are increasingly paying advances on a similar basis as labels
- Intermediaries: Collective Management Organisations (CMOs), such as PRS*f*M in the UK, collect much songwriter income and then, after deducting an administrative fee, pay songwriters or publishers (which then deduct a share before distributing to songwriters). If a song is played overseas, another CMO collects and deducts a fee before the domestic CMO usually deducts a further fee before distributing.

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Per-stream royalty rates for artists and songwriters vary markedly depending on the commercial relationships they have

Illustration of different streaming income flows

	Creator's per-stream rate	% of total per-stream royalty	% of total masters royalty	% of total publishing royalty	Income for one million streams
Artist on major label	£0.0014	20%	25%	n/a	£1,375
Artist on independent label that uses a distributor	£0.0023	33%	43%	n/a	£2,338
Self-released artist using artist distributor	£0.0044	63%	80%	n/a	£4,400
Sole songwriter collected by overseas PRO	£0.0008	11%	n/a	53%	£793
Songwriter with 1/5 of royalty collected by overseas PRO	£0.0002	2%	n/a	11%	£159

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The above table presents a series of illustrations of different income flows for artists and songwriters. Masters royalties refer to the recording of the performance (artists and labels) while publishing royalties refer to the underlying composition (songwriters and music publishers).

The range is pronounced across all examples, but the biggest difference is between performing artists and songwriters. Masters royalties typically account for between 52% and 55% of subscription revenue, while publishing royalties typically account for between 12% and 15%. Matters are compounded for songwriters by the fact that it is increasingly common for songs to have multiple contributing writers, thus reducing the amount any single songwriter earns.

How can the UK government protect the industry from knock-on effects, such as increased piracy of music? Does the UK need an equivalent of the EU Digital Copyright Directive?

Piracy is becoming yesterday's problem. Digital piracy rose to prominence when the music business had no viable digital strategy. Since the rise of streaming, piracy has become niche - just 2.9% of UK consumers use music P2P (peer-to-peer) regularly. Not only are consumers now able to easily access free music legally, consumption has shifted from albums to songs, so when piracy does occur it usually entails a smaller number of files per user. None of this means piracy does not still need to be addressed, but rather that the scale of the threat is now small in terms of both audience size and volume of files.

Do alternative business models exist? How can policy favour more equitable business models?

With streaming growth slowing, now is the time to explore new models. These are a few of MIDiA's proposed models. For all of them we recommend that rights holders allocate larger revenue shares to their creators than they do with streaming:

- Monetising fandom: Western streaming services monetise consumption; the next opportunity is to monetise fandom as happens with Chinese streaming services and South Korean and Japanese artists. Games like Fortnite have demonstrated that there is appetite for virtual merchandise and gifts among Western audiences. There is an opportunity to sell virtual items and to monetise the artist-fan relationship within and outside of existing streaming services.

- Artist subscriptions: A small number of artists have started to create fan subscriptions, such as Cardi B in the US on OnlyFans. There are multiple UK-based start-ups that have created white-label models for artist subscriptions; these include SupaPass, Disciple Media and FanCircles.

- Artist channels: Premium artist channels could be added on top of existing streaming services, with a per-channel fee (e.g. £1). Users would receive first-listens of new releases, exclusive virtual items, discounts on merchandise and live tickets, exclusive live chats and live-streamed performances.

- Live-stream subscriptions: Live-streamed and virtual events will emerge as a long-term format far beyond lockdown. There is a long-term opportunity for live-streamed subscriptions. We consider it important that this should generate additional subscription fees and not just further divide existing streaming royalties.

- Micro-communities: Off-platform niche fan communities where artists can monetise their superfans without rights holders as intermediaries.

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House of Commons

Digital, Culture, Media and Sport Committee

Economics of music streaming

Second Report of Session 2021–22

HC 50

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House of Commons

Digital, Culture, Media and Sport Committee

Economics of music streaming

Second Report of Session 2021–22

Report, together with formal minutes relating to the report

Ordered by the House of Commons to be printed 9 July 2021

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Published on 15 July 2021
by authority of the House of Commons

The Digital, Culture, Media and Sport Committee

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Summary

Music streaming intersects two sectors of considerable political, economic and cultural significance to the UK: our world-renowned music industry, which contributes over £5 billion in gross value added (GVA) to our economy, and our dynamic, innovative tech sector, which in 2018 was growing by nearly 8 percent per year and currently creates hundreds of thousands of jobs. Following over a decade of digital piracy, music streaming has returned the recorded music sector to growth and is now the dominant mode of music consumption for consumers in the UK and globally. Real-terms revenues from recorded music, however, are far below the levels seen in previous decades. For consumers, recorded music is now cheaper, more personalised and more readily available than ever before. While in the short term, the pricing structure of the industry, and free availability of such product, may be seen as a good deal for music-lovers, the danger is that without greater levels of revenue, some of the music they love may not be being made in ten years' time.

Despite the streaming boom that has provided a partial economic recovery for the music industry, not all stakeholders have received proportionate benefit. In many instances, companies have leveraged structural advantages to achieve seemingly unassailable positions in their relative markets. Streaming services that host user-generated content (UGC) have significant advantages over other services due to copyright 'safe harbours', which has led to the dominance of services like YouTube. We have been told that the major music companies have experienced historic profit margins, and continue to consolidate their position as the largest asset owners of recording and song rights through mergers, acquisitions, and integration with all aspects of the digital music business.

Meanwhile, performers, songwriters and composers receive only a small portion of revenue due to poor royalty rates and because of the valuation of song writing and composition, relative to the recording. Whilst these issues predate the Covid-19 pandemic, this has been compounded and thrown into sharp relief by the loss of live music, which continues to impact them and the ecosystem that supports them. Poor remuneration risks disincentivising successful, professional musicians and diminishing the UK's ability to support new domestic talent.

We recommend a broad yet comprehensive range of legislative reforms and regulatory interventions to deal with these issues. In order to address artist remuneration and the disparity in power between creators and companies, we recommend that the Government introduce a right to equitable digital music remuneration, a right to recapture the rights to works after a period of time and the right to contract adjustment if their works are successful beyond the remuneration they receive. We have deep concerns about the position of the major music companies and call on the Government to support the independent sector and take advice from the Competition and Markets Authority as to whether competition in the recorded music market is being distorted. We also advise the Government to proactively normalise the requirements on streaming services both within the streaming market and with other modes of music consumption, by placing greater licensing obligations on UGC-hosting services, future-proofing the public service broadcasting prominence regime and addressing 'payola' concerns about algorithms and playlist curators.

1 Introduction

The economics of music streaming

1. Music streaming is the process whereby music multimedia is accessed by consumers over the internet. Streaming has irrevocably changed modern music consumption and, as musicians have been restricted from touring and performing live during the Covid-19 pandemic, they have become solely reliant on revenue from recorded music. Some successful, critically acclaimed artists have found that the earnings from streaming "are not significant enough to keep the wolf away from the door".[1] Some hit songwriters have found that they cannot live off streaming revenue and are "forced to live on universal credit" with the Government "picking up the bill".[2] In response, musicians have mobilised, calling for a review of how recorded music revenues are shared.[3]

The loss of live music income

2. Our decision to examine the economics of music streaming complements our previous work on the broader economic impacts of the Covid-19 pandemic on the digital, culture, media and sport sectors[4] and our recently-Reported inquiry into UK music festivals.[5] Last year, we heard that 90 percent of UK festivals had been cancelled and 93 percent of grassroots music venues faced permanent closure.[6] We also alerted the Government to the fact that a quarter of the music industry workforce, including 42 percent of respondents to a Musicians' Union survey, did not qualify for the Self Employed Income Support Scheme and producers and sound engineers had lost an average of 70 percent of their income.[7] We recommended, in our Report on 'The Impact of COVID-19 on DCMS sectors', that the Government "should investigate how the market for recorded music is operating in the era of streaming to ensure that music creators are receiving a fair reward".[8] The Government's response to our Report stated that it had tasked the Intellectual Property Office (IPO) with supporting an independent qualitative and quantitative research project, jointly funded by Nesta and supported by a coalition of industry bodies, to investigate how music creators earn money from streaming.[9] The project is led by Dr Hyojung Sun, Ulster University, Professor David Hesmondhalgh, University of Leeds and Dr Richard Osborne, Middlesex University, and (at the time of writing) is due to report in the summer 2021.[10]

3. That said, dissatisfaction with music streaming within the music industry predated

1 Q75 [Nadine Shah]
2 Q181 [Fiona Bevan]
3 Ivors Academy of Music Creators, The Ivors Academy and Musicians' Union launch Keep Music Alive campaign to "fix streaming now", accessed 23 March 2021
4 Digital, Culture, Media and Sport Committee, Third Report of the Session 2019–21, Impact of COVID-19 on DCMS sectors: First Report, HC 291
5 Digital, Culture, Media and Sport Committee, First Report of the Session 2021–22, The future of UK music festivals, HC 49
6 Digital, Culture, Media and Sport Committee, Third Report of the Session 2019–21, Impact of COVID-19 on DCMS sectors: First Report, HC 291, paras 43–4
7 Oral evidence taken on 22 April 2020, HC (2019–21) 157, Qq37–39
8 Digital, Culture, Media and Sport Committee, Third Report of the Session 2019–21, Impact of COVID-19 on DCMS sectors: First Report, HC 291, para 44
9 Digital, Culture, Media and Sport Committee, Third Special Report of the Session 2019–21, Impact of Covid-19 on DCMS sectors: First Report: Government Response to Committee's Third Report of Session 2019–21, HC 885, para 10
10 Dr Hyojung Sun, Prof. David Hesmondhalgh and Dr Richard Osborne (EMS0149)

the Covid-19 pandemic. In its 2019 Report on Live Music, our predecessor Committee considered whether existing income streams for musicians are sustainable. It recognised that digital music consumption provided "significant opportunities for artists to distribute their music and reach new audiences" but that "labels and musicians struggle to make sufficient returns from their creative output".[11] Services that host user-generated content (UGC)/user-uploaded content (UUC) in particular were criticised for the "shameful rates" paid to the music industry for digital music consumption.[12] Our predecessor Committee also noted that the Government similarly expressed dissatisfaction with the current rates of remuneration offered to artists through streaming services but did not make any streaming-specific recommendations.[13]

4. The abrupt and enforced loss of live music income for musicians during the pandemic subsequently recontextualised concerns about the economics of music streaming. In March 2020, the #BrokenRecord Campaign, founded by Gomez vocalist, guitarist and songwriter Tom Gray, gained considerable traction on social media, bringing together musicians, industry professionals, fans and other parties dissatisfied with artist remuneration from music streaming in order to agitate for changes to the existing model.[14] Mr Gray has called for "the restoration of a larger, secure, professional class of artist, songwriter and performer" and for "kids to be able to aspire to make a living from original music, not simply huge fame or bust".[15] In May 2020, the Ivors Academy of Music Creators and the Musicians' Union launched the Keep Music Alive campaign to "fix streaming" by starting a petition that called on the Secretary of State for Digital, Culture, Media and Sport, Oliver Dowden MP, to explore regulation and reform of the music streaming market.[16] The public debate provoked by the campaigns was welcomed by Kim Bayley, CEO of the Entertainment Retailers' Association (ERA), a trade organisation representing physical and digital music, video and videogame retailers and wholesalers such as Amazon, SoundCloud, Spotify and YouTube.[17] However, Geoff Taylor, CEO of the British Phonographic Industry Ltd (BPI), a trade association for UK record labels, argued that the industry's "focus should be on growing the streaming pie rather than trying to argue over where that streaming pie should go".[18] The perspectives of creators, the record industry and music streaming services largely consolidated along these lines throughout our inquiry.

Our inquiry

5. We launched our inquiry in October 2020 to consider the impact of music streaming on the creators and companies that comprise the music industry and examine the long-term sustainability of the industry itself. We have received almost 300 pieces of written evidence, organised an engagement event with emerging artists and held seven oral evidence sessions during which we heard from performers, songwriters, composers, music companies, trade bodies, collecting societies, government ministers and, of course,

11 Digital, Culture, Media and Sport Committee, Ninth Report of the Session 2017–19, Live music, HC 733, para 111
12 Digital, Culture, Media and Sport Committee, Ninth Report of the Session 2017–19, Live music, HC 733, para 111
13 Digital, Culture, Media and Sport Committee, Ninth Report of the Session 2017–19, Live music, HC 733, para 112
14 "#BrokenRecord: 'It's about saying we all recognise this is problematic'", Music Ally, 18 May 2020
15 "'I love streaming, I just hate the remuneration system sitting inside it.'", Music Business Worldwide, 23 February 2021
16 Ivors Academy of Music Creators, The Ivors Academy and Musicians' Union launch Keep Music Alive campaign to "fix streaming now", accessed 23 March 2021
17 Entertainment Retailers' Association, ERA CEO welcomes #BrokenRecord and #FixStreaming debates as musicians contend with coronavirus, accessed 23 March 2021
18 "BPI chief Geoff Taylor responds to #BrokenRecord debate", Music Week, 29 May 2020

the streaming services themselves.

6. However, our inquiry highlighted concerning practices. Participants in our roundtable discussion noted that many emerging artists are afraid to speak out because "they don't want to fall out of favour" with market gatekeepers.[19] Several performers who did give evidence claimed that they and many of their peers were afraid of speaking out against the status quo for fear of losing favour with major record labels and streaming services.[20] As Elbow frontman and BBC 6 Music presenter Guy Garvey argued, "however leaky the boat has become, young musicians still don't want to rock it, and if they don't rock it they can't make ends meet, particularly in genres where how much money you have is part of your lyrics".[21] Furthermore, some potential witnesses privately raised concerns that speaking publicly would bring negative consequences for them. It is, therefore, unsurprising that we received almost eighty confidential submissions to our inquiry. On 1 December 2020, our Chair considered it necessary to make a statement on the issue:

> We have been told from many different sources that some of the people interested in speaking to us in relation to this inquiry have become reluctant to do so, because they fear action may be taken against them if they speak in public. I would like to say, on behalf of the Committee, that we would take a very dim view indeed if we have any evidence of anyone interfering with witnesses to one of our inquiries. No one should suffer any detriment for speaking to a parliamentary Committee, and anyone deliberately causing harm to one of our witnesses will be in danger of being in contempt of this House. This Committee will brook no such interference and will not hesitate to name and shame anyone proven to be involved in such activity. Anyone who wants to come forward to speak on this issue or any other issue should get in touch with the Committee and will be treated in confidence.[22]

Our Report

7. The economics of music streaming is a complex and idiosyncratic object of study. As such, Chapter 2 of this Report will provide an overview of the rise of digital music, including a historical overview of music streaming, its legal underpinnings and the consumer perspective, in order to provide the necessary context to the issues that will subsequently be examined. Our Report will then focus on three broad areas:

- Chapter 3 will evaluate issues regarding performer, songwriter, composer and music publisher remuneration;
- Chapter 4 will consider issues in the recorded music market, such as competition, market domination and transparency; and
- Chapter 5 will discuss issues in the streaming market, including technologies, payment systems and 'safe harbour' provisions that protect services that host user-generated content.

Due to the prevalence of jargon used by industry stakeholders (and therefore used throughout this Report), Annex 1 provides a glossary of relevant terms.

19 Transcripts of roundtables with emerging artists (EMS0293)
20 Qq21, 76, 98–101
21 Q76
22 Oral evidence taken on 1 December 2020, HC (2019–21) 869

2 The dominance of digital music

Significance of the UK market

8. Music streaming intersects two sectors of considerable political, economic and cultural significance to the UK: namely, our historic, world-renowned creative industries and our innovative, flourishing tech industry. Streaming services have provided a new and legitimate mode for people around the world to consume UK music and return the music industry to growth following over a decade devastated by digital piracy.[23] Consumers now have access to more music than ever before at historically cheap prices (if they choose to pay at all).[24] It is estimated that the UK is the largest digital music market in Europe and generated approximately $1 billion in revenue in 2020 alone.[25]

9. Prior to the Covid-19 pandemic, the creative industries added between £110 and £130 billion to the UK economy, supported over two million jobs[26] and, since 2010, grew at nearly twice the rate of the economy as a whole.[27] In terms of music markets, the UK is currently second only to the United States.[28] The UK music industry contributes an estimated £5.2 billion in gross value added (GVA) to the UK economy per year, of which recorded music generates approximately £1.5 billion in retail revenues: a figure that is also growing year-on-year.[29] The industry employs over 200,000 people, ranging from music creators (including over 50,000 UK artists) and their ecosystems, music venue and touring staff and employees of record labels, music publishers, music streaming services and collecting societies, based in every nation and region of the UK, stimulating local economies across the country.[30] Annually, the sector generates £2.7 billion in exports, and recorded music specifically generates £500 million in export revenues.[31] One in every ten tracks streamed globally is by a British artist, which the BPI has noted is four times greater than the UK's share of global GDP.[32] The UK's comparative advantage in global music production is a product of its broader cultural capital and the prevalence of the English language as a first and second language around the world.[33] Many contributors to our inquiry, including the BPI and the International Federation of the Phonographic Industry (IFPI), the worldwide record label trade association, have argued that the music industry is "a powerful component of the UK's 'soft power' on the world stage", whilst others have argued that music has made a significant positive contribution "to the perception of the UK globally".[34]

10. In economic terms at least, the contribution of the creative industries is however rivalled by the UK's tech sector. In 2018, the sector contributed £149 billion, worth more

23 International Federation of Musicians (FIM) (EMS0025); Dr Nicola Searle (EMS0041); Entertainment Retailers Association (EMS0081); Association of Independent Music (EMS0157); PRS for Music (EMS0158)
24 Pete Woodroffe (EMS0018); Dr Nicola Searle (EMS0041); Bournemouth University (EMS0048)
25 Digital Media Association (DiMA) (EMS0233)
26 Dr Nicola Searle (EMS0041); Equity (EMS0173)
27 Equity (EMS0173)
28 Philippe Rixhon (EMS0146); #BrokenRecord Campaign (EMS0218)
29 Julian Henry (EMS0137); Philippe Rixhon (EMS0146); BPI (EMS0208); Digital Media Association (DiMA) (EMS0233)
30 Association of Independent Music (EMS0157); #BrokenRecord Campaign (EMS0218); Digital Media Association (DiMA) (EMS0233)
31 BPI (EMS0208)
32 "One in 10 songs streamed globally are by British artists", NME (4 January 2021)
33 Dr Nicola Searle (EMS0041); Philippe Rixhon (EMS0146)
34 Q8 [Tom Gray]; Julian Henry (EMS0137); Philippe Rixhon (EMS0146); BPI (EMS0208); IFPI (EMS0209); Niall Parker (EMS0267)

than £400 million per day, accounting for 7.7 percent of the UK economy, and was growing by nearly 8 percent per year, six times faster than the economy as a whole.[35] The Internet Association, a worldwide trade body for internet companies, asserts that the internet sector alone contributes $45 billion to the UK economy every year, creating opportunities for approximately 80,000 businesses and 400,000 jobs.[36] The 850 members of techUK, a national trade body for technology companies, collectively employ over 700,000 people.[37] YouTube's submission states that research by Oxford Economics, a forecasting and quantitative analysis outfit, found that the company's "creative ecosystem" alone supports 30,000 full-time equivalent jobs and contributes £1.4 billion to UK GDP.[38] Moreover, UK consumers of all demographics are often early adopters of new technology, making the UK a significant market for tech companies.[39] As such, the Government has stated its desire to "shape a new golden age for tech in the UK"[40] and has declared that the tech sector can be "an engine of job creation kickstarting our economy as we emerge from the pandemic".[41] The Secretary of State for DCMS has, repeatedly throughout his tenure, described himself,[42] the Government[43] and the UK[44] as "unashamedly pro-tech".

11. The UK's tech credentials also extend beyond the private sector. Most prominently, the UK is at the forefront of developing new frameworks for digital competition, age appropriate design, online harms and cybersecurity. The Government has announced that Ofcom will operate as the new regulator of harmful content online in recognition of its global reputation and experience tackling harmful content while supporting freedom of expression in television and radio programming.[45] The Government also intends to establish a Digital Markets Unit (DMU) within the Competition and Markets Authority (CMA) to oversee a new pro-competition regime for tech companies, including an enforceable code of conduct to govern the behaviour of the largest and most powerful companies with 'strategic market status' and pro-competition interventions to tackle the sources of market power, though it has yet to legislate and put the DMU on a statutory footing.[46]

35 "Digital sector worth more than £400 million a day to UK economy", Department for Digital, Culture, Media and Sport, accessed 23 April 2021
36 Internet Association (EMS0164)
37 techUK (EMS0276)
38 YouTube (EMS0144)
39 Digital Media Association (DiMA) (EMS0233)
40 Department for Digital, Culture, Media and Sport, Our 10 Tech Priorities, accessed 23 April 2021
41 "Scotland's tech sector going from strength to strength", Office of the Secretary of State for Scotland and Department for Digital, Culture, Media and Sport, 8 September 2020
42 "New competition regime for tech giants to give consumers more choice and control over their data, and ensure businesses are fairly treated", Department for Business, Energy and Industrial Stategy and Department for Digital, Culture, Media and Sport, 27 November 2020; "UK leads the way in a 'new age of accountability' for social media", Department for Digital, Culture, Media and Sport and Home Office press release, 15 December 2020
43 "New strategy to unleash the transformational power of Artificial Intelligence", Department for Digital, Culture, Media and Sport, Department for Business, Energy and Industrial Strategy and Office for Artificial Intelligence press notice, 12 March 2021
44 "Oliver Dowden: UK can be 'unashamedly pro-tech nation'", Computer Weekly (6 March 2020)
45 Ofcom, Ofcom to regulate harmful content online (15 December 2020)
46 "Digital Markets Unit (non-statutory) - terms of reference", Department for Business, Energy and Industrial Strategy and Department for Digital, Culture, Media and Sport, 7 April 2021

Advent of music streaming

12. To understand the peculiarities of the economics of music streaming (such as the particular legal frameworks, remuneration and licensing arrangements and industry norms that underpin the music streaming economic model) it is necessary to understand the historical context from which it emerged.

13. Whilst music piracy naturally predates the digital age, the technologies that emerged and became increasingly widespread from the mid-90s onwards posed a unique threat to the music industry. The music industry's move from cassette tapes and vinyl to CDs meant that music was sold in a readily digitised format, whilst the presence of CD drives on personal computers enabled more efficient (and higher quality) pirating of recorded music than was possible using tapes in the 1980s.[47] The creation of new audio compression formats, such as the MP3 format in 1993,[48] which allowed audio files to be compressed with relatively little loss of sound quality, prompted the development of portable MP3 players such as the iPod in 2001,[49] and provided an alternative to portable CD and cassette players. Finally, the maturation of internet technologies and everyday use of the World Wide Web enabled a mass adoption of peer-to-peer (P2P) file sharing platforms that allowed users to share MP3s of recorded music with relative ease on an industrial scale at next to no cost. This effectively removed the physical limitations inherent to previous forms of piracy, such as the physical replication and distribution of pirated music. Napster, launched in 1999, was the first P2P file sharing platform to focus primarily on sharing recorded music.[50] It was followed by Limewire, Kazaa, Pirate Bay[51] and various other services throughout the following decade.[52]

14. The legal tension caused by the emergence of new modes of music consumption was not unforeseen by the industry or policymakers.[53] Calls to address the challenges of unauthorised access to copyrighted works through internet and digital networking technologies led to the World Intellectual Property Organisation (WIPO) creating provisions in international law through the WIPO Internet Treaties,[54] of which the WIPO Copyright Treaty (WCT) was signed by member states in December 1996.[55] The WCT catalysed national copyright legislation for digital music consumption and mandated, amongst other things, that performers' record labels "shall enjoy the exclusive rights of authorising the making available to the public of their phonograms by wire or wireless means in such a way that members of the public may access them from a place and at a time individually chosen by them".[56] Dr Hayleigh Bosher notes that this 'exclusive right to make available' (the so-called 'exclusive right' or 'making available right') was deliberately made 'technology-neutral', "where the technical means by which the communication was made was irrelevant, in order that any future technical development be included within the provision".[57] The making available right was adopted by EU member states (including the

47 "Trends: Online music piracy – past, present and future", Complete Music Update (22 December 2017)
48 The Ivors Academy of Music Creators (EMS0197)
49 The Ivors Academy of Music Creators (EMS0197)
50 "The Piracy Sites That Nearly Destroyed The Music Industry: What Happened To Napster", Forbes (21 March 2018)
51 Q221
52 "Trends: Online music piracy – past, present and future", Complete Music Update (22 December 2017)
53 CREATe: UK Copyright and Creative Economy Centre, University of Glasgow (EMS0189)
54 WIPO, WIPO Internet Treaties, accessed 27 May 2021
55 CREATe: UK Copyright and Creative Economy Centre, University of Glasgow (EMS0189)
56 CC Young & Co Limited (EMS0077)
57 Dr Hayleigh Bosher (EMS0254)

UK) in 2002, through Article 3 of the Information Society Directive (Directive 2001/29/EC of the European Parliament and of the Council).[58] The UK Government of the day chose to enact the making available right as a subset of performance rights provided by the 1988 Copyright, Designs and Patents Act through the Copyright and Related Rights Regulations, commenced in October 2003.[59]

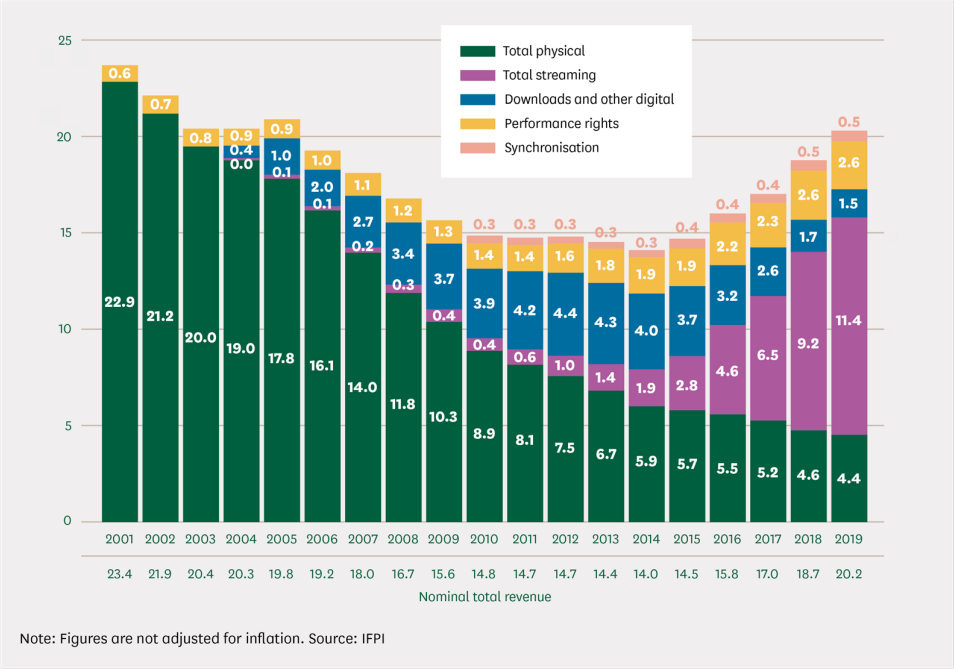
15. However, despite new modes of music distribution and consumption emerging throughout the 90s, the music industry was slow to develop a viable digital music business strategy and provide consumers with legitimate digital music products.[60] In 2001, the market for recorded music reached its historical peak at $23 billion worldwide (equivalent to $33 billion in current prices).[61] At the time, record label revenue exceeded £1.2 billion per year[62] (approximately equivalent to over £2 billion in current prices), but record labels themselves remained committed to CD sales,[63] which also peaked in 2001.[64] However, between 2002 and 2015, worldwide recorded music revenues fell by 40 percent as consumers switched to digitally pirated music or to music made available by UGC-hosting sites. In 2006, one music industry report stated that 20 billion tracks had been downloaded illegally in the year prior.[65] In 2008, the BBC reported that 20 percent of Europeans were using file sharing networks compared to just 10 percent using legitimate digital services such as iTunes,[66] whilst the IFPI claimed that piracy accounted for 95 percent of music consumption.[67]

16. The music industry, for its part, did eventually attempt to respond to the growing prevalence of digital piracy. Ventures into the digital downloads market by the major record labels, namely through the PressPlay and MusicNet apps, ended in failure, with PC World commenting at the time that "the services' stunningly brain-dead features showed that the record companies still didn't get it".[68] Through its trade associations, the industry began to take legal action against individuals for illegal file sharing,[69] which proved to be both financially costly and a source of negative PR.[70] Moreover, such was the role of CDs in facilitating digital piracy that in one particular case a major record label was found to be secretly installing rootkit and copy protection software onto their CDs for general sale that left customers exposed to hacking attempts (eventually having to settle several lawsuits).[71] However, there were some successes. Through various legal battles, record labels successfully managed to close P2P file sharing platforms Napster[72] and Limewire,[73]

58 Robin Firman (EMS0017); Directive 2001/29/EC, Article 3
59 The Copyright and Related Rights Regulations 2003, regulation 7; Copyright, Designs and Patents Act 1988, section 182CA
60 Ali Gavan (EMS0026); MIDiA Research (EMS0073); The Ivors Academy of Music Creators (EMS0197)
61 Q221
62 BPI (EMS0208)
63 BMG (EMS0207)
64 Entertainment Retailers Association (EMS0081)
65 "Kazaa site becomes legal service", BBC News (27 July 2006)
66 "Warning letters to 'file-sharers'", BBC News (3 July 2008)
67 Entertainment Retailers Association (EMS0081)
68 BMG (EMS0207)
69 BMG (EMS0207)
70 "Behind the music: Mystery of the filesharing windfalls", The Guardian (30 July 2009)
71 "Inside the Spyware Scandal", MIT Technology Review (1 May 2006)
72 "The Piracy Sites That Nearly Destroyed The Music Industry: What Happened To Napster", Forbes (21 March 2018)
73 "The Piracy Sites That Nearly Destroyed The Music Industry: What Happened To Limewire", Forbes (21 March 2018)

and force Kazaa to become a legitimate service;[74] Limewire and Kazaa were required to pay $100 million in damages to record labels, whilst the Napster brand was acquired after the company went bankrupt and has since become a legitimate music streaming service. From 2012, on behalf of record labels, the BPI's Content Protection Unit (CPU) began submitting millions of URLs to search engine providers for delisting and blocking hundreds popular pirate domains through internet service providers through High Court litigation.[75] Yet, despite these efforts, industry revenues continued to decline; by 2015, record label revenue had fallen to less than £800 million[76] (approximately equivalent to £900 million today).

Nominal global recorded music industry revenues by format, 2001–2019 ($bn)



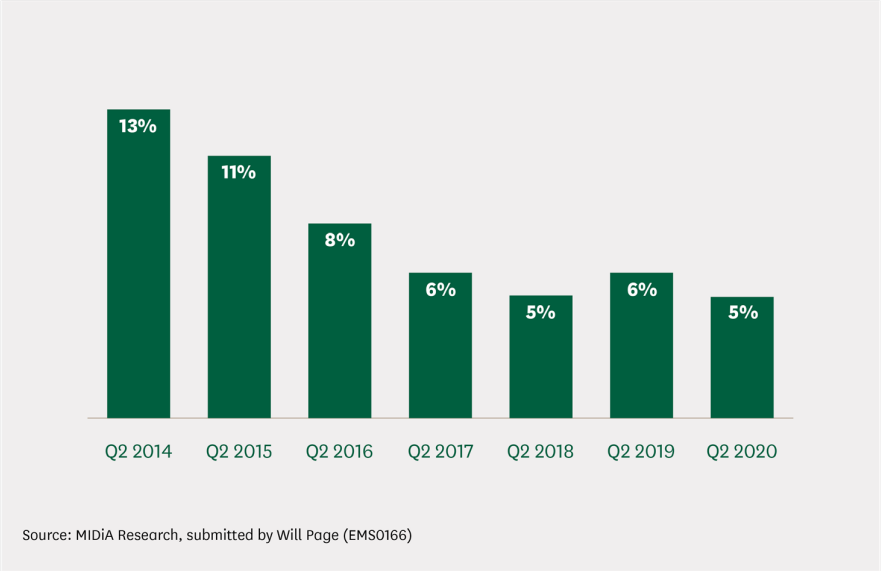
17. In the mid-2010s, the situation began to change. Spotify, the first mainstream subscription music streaming service, was launched in late 2008, seven years after CD sales had peaked.[77] Our written evidence demonstrates a clear and broad consensus across the sector that streaming has been the biggest contributor to the decline of digital piracy of recorded music and the return to revenue growth for the music industry.[78] Studies found that even in the early days of streaming, legitimate music streaming services were helping to incentivise people to move away from illegal platforms. One study in

74 "The Piracy Sites That Nearly Destroyed The Music Industry: What Happened To Kazaa", Forbes (21 March 2018)
75 BPI (EMS0208)
76 BPI (EMS0208)
77 Entertainment Retailers Association (EMS0081)
78 Qq73–5 [Ed O'Brien, Guy Garvey]; Qq111 [Maria Forte], 113 [Kwame Kwaten], 128, 130, 194 [Soweto Kinch]; Q389 [Yvette Griffith]; Qq586 [Horacio Gutierrez], 600 [Paul Firth]; International Federation of Musicians (FIM) (EMS0025); Entertainment Retailers Association (EMS0081); Association of Independent Music (EMS0157); PRS for Music (EMS0158)

Sweden found that between 2009 and 2011, once streaming services became available, the number of people pirating music fell by a quarter.[79] According to the 2018 *YouGov Music Report*, the number of people illegally downloading music fell from 18 percent in 2013 to ten percent in 2018 and that 63 percent of those who had stopped using illegal sites were instead using streaming services.[80] Since 2014, the recorded music industry has experienced year-on-year growth each year.[81] The ERA argues that between 2015 and 2019 streaming increased the value of the UK recorded music market by 38 percent.[82] In 2019, global streaming revenue grew by 23 percent and accounted for 56 percent of total global recorded music revenue, marking the first time streaming contributed to majority share of music consumption.[83] In fact, in the United States, 2019 music streaming revenues alone exceeded the total recorded music market for 2017.[84] Streaming now makes up more than 70 percent of UK recorded music revenues and since 2009 has generated new revenues of £3.5 billion for the UK recorded music industry to date.[85] Undoubtedly, the dominant music streaming services have underpinned a fundamental shift away from an acquisition model of music consumption towards a model based on all-you-can-eat access.[86]

Proportion of UK population downloading music illegally, 2001–2019

Proportion of UK population downloading music illegally, 2014-2020



Source: MIDiA Research, submitted by Will Page (EMS0166)

18. This had led several people to assert that the threat of piracy is largely over. Will Page, former chief economist at Spotify, argues that "the problem of piracy has been 'old news'

79 Will Page (EMS0166)
80 Musicians' Union (EMS0080); Entertainment Retailers Association (EMS0081); Internet Association (EMS0164)
81 Entertainment Retailers Association (EMS0081)
82 Entertainment Retailers Association (EMS0081)
83 YouTube (EMS0144)
84 International Federation of Musicians (FIM) (EMS0025)
85 Entertainment Retailers Association (EMS0081)
86 PRS for Music (EMS0158)

for quite some time" due to the "frictionless and free entry point into legal streaming" that legitimate free-to-access models in particular offer to consumers (see paragraph 22 and Annex 2 for more detail).[87] MIDiA Research claims that, currently, only 2.9 percent of UK consumers use P2P music platforms regularly and argues that whilst piracy still needs to be addressed, "the scale of the threat is now small in terms of both audience size and volume of files".[88]

19. However, industry bodies have argued copyright infringement remains prevalent and is adapting to the streaming economy.[89] Piracy continues to deprive the industry of nearly £200 million in estimated revenues, which would otherwise benefit both the corporate and creative ecosystems, as well as the taxpayer through lost VAT revenue.[90] One such form of piracy that has emerged in the wake of streaming is 'stream-ripping', where pirates record and distribute streamed content for illegitimate streaming or download.[91] Research conducted by PRS for Music Limited, a copyright collective made up of the Performing Right Society (PRS) and MCPS (Mechanical-Copyright Protection Society), in partnership with the IPO, in 2017 found that streaming ripping was the fast-growing part of the piracy landscape.[92] IFPI estimates that 23 percent of people have used illegal stream-ripping services,[93] whilst a recent study by IPSOS on behalf of Creative Content UK found that 35 percent of internet users are stream ripping.[94] The same IPSOS study found also that stream-ripping was particularly prevalent amongst young people, with 53 percent of 16- to 24-year-olds admitting to pirating music and predominantly through stream-ripping services.[95] PRS for Music notes that between 2016 and 2019, YouTube was the most likely service to have content ripped from it (though similar practices were increasing occurring on Spotify).[96] YouTube contends that it has continuously invested in action against stream rippers, including through technical improvements to its services, legal interventions and collaboration with third parties.[97] Stream ripping apps are also available through app stores, which have necessitated continued action by PRS for Music and other industry bodies.[98]

20. Beyond stream ripping, other forms of piracy include using illegitimate, unlicensed music player apps and sites,[99] account-sharing on legitimate apps[100] and accessing legitimately-licensed free music ad-free.[101] Contemporary digital piracy is often enabled by search engines and other digital intermediaries, due to a lack of clear legal liability in doing so.[102] IFPI has elsewhere argued that "54% of those downloading unlicensed music also use Google to find unlicensed music".[103] Furthermore, leaked releases, often obtained via hacking, continue to deprive the industry of revenue whilst taking advantage of pre-

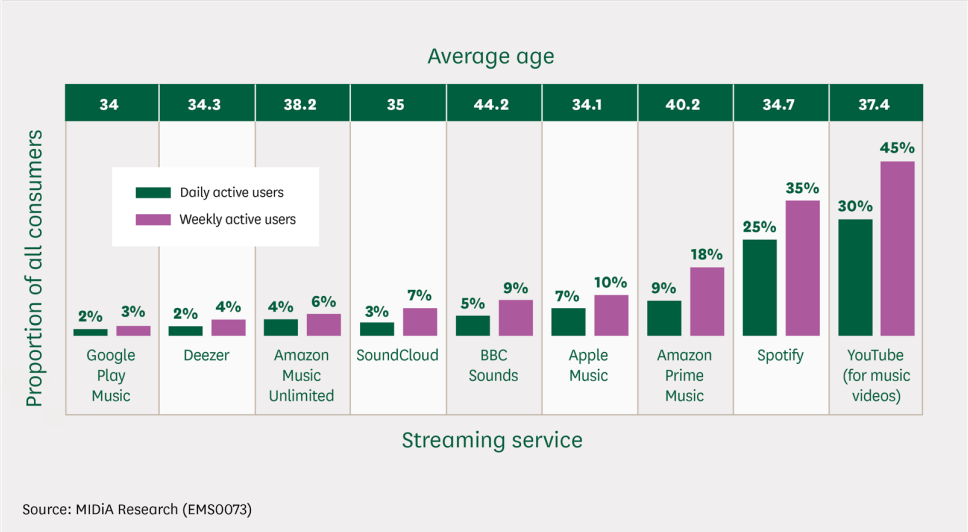
87 Will Page (EMS0166)
88 MIDiA Research (EMS0073)
89 One Media iP Group PLC (EMS0182)
90 BPI (EMS0208)
91 Dr Nicola Searle (EMS0041)
92 PRS for Music (EMS0158); see also All Party Parliamentary Jazz Appreciation Group (EMS0161)
93 techUK (EMS0276)
94 All Party Parliamentary Jazz Appreciation Group (EMS0161)
95 All Party Parliamentary Jazz Appreciation Group (EMS0161); BPI (EMS0208)
96 British Copyright Council (EMS0139)
97 YouTube (EMS0144)
98 PRS for Music (EMS0158)
99 AEPO-ARTIS (EMS0051); PRS for Music (EMS0158)
100 Will Page (EMS0166)
101 The Ivors Academy of Music Creators (EMS0197)
102 BPI (EMS0208); Bucks Music Group Ltd (EMS0269)
103 All Party Parliamentary Jazz Appreciation Group (EMS0161)

release promotions.[104] Finally, the music industry has noted that legitimate streaming services often host unauthorised uploads that are monetised by pirates, which deprives rightsholders of income and forces these rightsholders to devote resources to monitoring services for unauthorised usage.[105]

Music streaming service models

Daily and weekly active UK users of leading music streaming services, Q2 2020

Daily and weekly active UK users of leading music streaming services, Q2 2020



Source: MIDiA Research (EMS0073)

21. Music streaming services are provided by the platforms of tech companies either as their core function or as a secondary service. Within the music industry, streaming services are often referred to as digital service providers (DSPs). However, we note that in common parlance this term may also refer to a range of businesses including search engines, online marketplaces, or cloud computing providers, and as such refer to them as music streaming services throughout this Report.

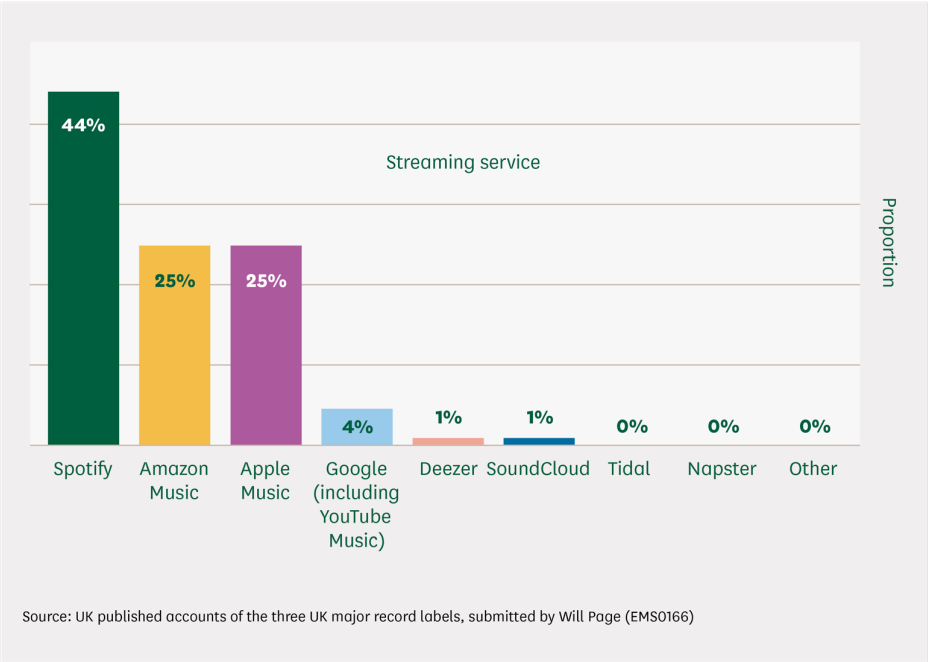
22. There are many ways that music streaming services can be categorised, including by pricing strategy, service offering and payment model (we provide a fuller description of these in Annex 2). The largest services currently operate on either a premium or free-to-access model or a combination of the two known as 'freemium' (though several start-ups, such as the Resonate Co-operative and Sonstream, offer interesting alternatives to this through micropayment models). Premium services are funded through monthly subscriptions (with a current benchmark of £9.99 per month), whilst free services are funded by advertising revenue—or, in the case of Amazon, bundled with a video and goods-delivery subscription. These revenues are then divided between the service and music industry according to pre-determined, negotiated agreements with the music industry (described in paragraphs 24–33 in Chapter 2). Most services then allocate revenue

104 BPI (EMS0208); Matthew Tong (EMS0155)
105 BPI (EMS0208); Bucks Music Group Ltd (EMS0269)

to individual tracks (and therefore rightsholders) according to a 'pro-rata' model, where the total revenue for each income stream is added up and then distributed to rightsholders according to each track's proportion of total streams. However, some services are experimenting with alternative models: SoundCloud, for instance, is currently trialling a 'user-centric' payment system for independent artists, where each user's subscription is paid according to the tracks they listen to rather than the aggregate listening of all users (whilst services like Resonate and Sonstream's systems are user-centric by design).

Proportion of the 22.6m UK music premium subscription accounts by streaming service, Q1 2020

Proportion of the 22.6m UK music premium subscription accounts by streaming service, Q1 2020



Source: UK published accounts of the three UK major record labels, submitted by Will Page (EMS0166)

23. Another significant way that streaming services are categorised is based on content hosting. Most music streaming services, such as Spotify, Amazon Music and Apple Music, license music from the music industry. Some services, such as YouTube or SoundCloud, exclusively or additionally host UGC/UUC directly to their sites. Services that host UGC are exempted from legal liability for copyright infringement (among other things) unless and until they obtain "actual knowledge" of infringing activity, after which they must act expeditiously to remove or to disable access to the information.[106] These exemptions of liability are referred to by the tech and music industry as 'safe harbour', and have already been transposed into UK law from European Union's E-Commerce Directive (meaning they remain in UK law even after the UK's withdrawal from the European Union).[107] However, it should be noted that UGC-hosting streaming services, along with social media companies and other sites that host UGC, will soon acquire new obligations regarding copyright infringement in EU member-states under the new Directive on Copyright

106 SCRIPT (EMS0205)
107 Directive 2000/31/EC

in the Digital Single Market (which will be discussed below in paragraphs 173–178 in Chapter 5).[108]

Copyright and remuneration from music streaming

When music is streamed

24. There are two distinct bundles of rights that are exploited when music is streamed: the copyright in the song lyrics and music (sometimes referred to in evidence we received as "the song" or "song rights"), and the copyright in the performance (referred to as "the recording/master" or "recording/master rights"). A song can often benefit from being performed and recorded multiple times by different artists over time.[109] Though many creators may be involved with both composing and recording music in some fashion when creating a track, they may work with different companies in either process (assuming they do not decide to retain their rights and distribute their music as self-releasing artists).[110] Songwriters and composers work with music publishing companies to exploit song rights, whilst performers work with record labels to exploit recording rights. Recording rights are licensed directly to streaming services by record labels or aggregators and distributors, whilst song rights are licensed collectively through collecting societies, which are bodies that license copyrighted works on behalf of rightsholders and ensure these rightsholders are remunerated for such usage in return for administrative fees.

25. Whilst many music companies may have both publishing and recording operations, they are usually organised as autonomous entities, meaning that any service that wishes to use recorded music (such as radio or streaming services) will need to license the song and recording rights separately. Record labels may each license their catalogues of recording rights directly with the music streaming companies, particularly if they have large catalogues.[111] Otherwise, smaller labels (and self-releasing artists) can go through a music distributor who, in this context, acts as the middleman between rightsholders and music streaming services.[112] Distributors range from small-scale boutique services to collectives like Merlin, a third-party licensing hub set up by independent record labels to leverage their aggregated market share.[113] Song rights, on the other hand, are negotiated and licensed collectively on behalf of songwriters, composers and publishers by PRS for Music.[114]

26. The complex underlying intricacies of rights, licensing negotiations and corporate/creator agreements have important repercussions for how parties are remunerated from music streaming. Before streaming income is divided amongst licensees and rightsholders, the Government receives revenue from music streaming subscriptions in the form of value-added tax (VAT), which is an indirect tax levied on most goods and services in the UK, at the standard rate of 20 percent of the gross margin. From a standard £9.99 subscription, this amounts to £1.67 per subscription.[115] From the remainder, known as the gross revenue pot, the music streaming services then receive their share of revenues.

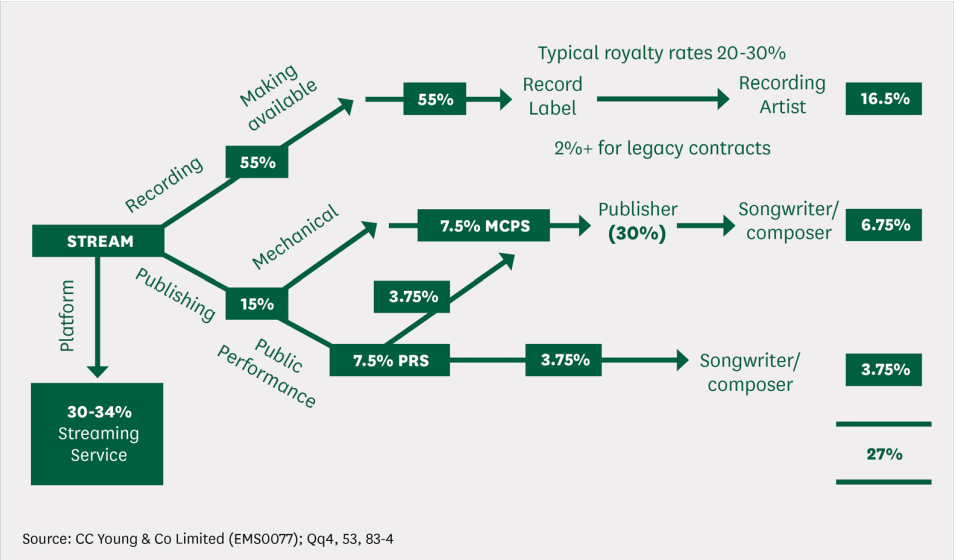
108 Directive (EU) 2019/790, Article 17; see also CREATe: UK Copyright and Creative Economy Centre, University of Glasgow (EMS0189)
109 Association of Independent Music (EMS0157)
110 Chris Cooke, *Dissecting the Digital Dollar*, 3rd edition (Wrocław, 2020)
111 Chris Cooke, *Dissecting the Digital Dollar*, 3rd edition (Wrocław, 2020)
112 Association of Independent Music (EMS0157)
113 Association of Independent Music (EMS0157)
114 CREATe: UK Copyright and Creative Economy Centre, University of Glasgow (EMS0189)
115 Entertainment Retailers Association (EMS0081); Anthony Hamer-Hodges (EMS0206); BPI (EMS0208)

From a standard subscription and from advertising revenue, this is generally assumed to be 30 percent,[116] though the Association of Independent Music (AIM), a trade body for independent record labels, has posited that the figure is actually closer to 35 percent.[117] The remaining share, which goes to industry, is known as the royalty pot.[118] From the royalty pot, the majority of revenue goes to the master rightsholders, who receive approximately 55 percent of the gross revenue pot. Song rightsholders therefore receive the remainder, amounting to approximately 15 percent of the gross revenue pot. Put in terms of the royalty pot, the master rightsholders therefore receive approximately 78.5 percent of the revenues that accrue to the music industry rightsholders, whereas song rightsholders receive approximately 21.5 percent.

Allocation of revenues from music streaming (after VAT)

Allocation of revenues from music streaming (after VAT)

All percentages are approximate or illustrative



Source: CC Young & Co Limited (EMS0077); Qq4, 53, 83-4

All percentages are approximate or illustrative

How rights are exploited

27. UK copyright law provides specific rights for the owners of copyrights and for performers that control how music is consumed. The Copyright, Designs and Patents Act 1988 ('the Act') provides the owner of copyright with the exclusive right for certain acts. When music is consumed (either legitimately or illegitimately), it will involve one or more of these acts. These acts include copying, issuing, renting or lending[119] copies of a

116 Entertainment Retailers Association (EMS0081); CC Young & Co Limited (EMS0077)
117 Association of Independent Music (EMS0157)
118 BPI (EMS0208)
119 The Copyright, Designs and Patents Act 1988 defines rental as making a copy available for use, on terms that it will or may be returned, for direct or indirect economic or commercial advantage, whilst it defines lending as making a copy available for use, on terms that it will or may be returned, otherwise than for direct or indirect economic or commercial advantage.

work, performing in public, communicating to the public (e.g. broadcast) and/or making an adaptation of a work.[120] Copyright is infringed where someone does, or authorises someone else to do, any of these acts without licence from the copyright owner,[121] albeit with certain permitted exceptions, which include use for purposes of research, critique, reporting and parody, caricature or pastiche.[122]

28. Regulations made under the Act also confer several rights on performers. Since 1996, the 'reproduction right', 'distribution right', 'rental right' and 'lending right', for example, provide performers with the right to authorise or prohibit the making, issuing, renting and lending of copies to the public respectively.[123] Pertinent to this inquiry, since 1996 these regulations also provide performers with a unalienable, unassignable 'right to equitable remuneration' (known as the 'remuneration right') where a commercially published sound recording is played in public, communicated to the public or (when a performer transfers their rental right to a record or film producer) rented to the public.[124] The precise rate of equitable remuneration is not enshrined within UK law, but current industry norms dictate that the corporate and creative partners divide this revenue half each.[125] Finally, and equally pertinent, since 2003, regulations also provide performers with the making available right, whereby their rights "are infringed by a person who, without his consent, makes available to the public a recording of the whole or any substantial part of a qualifying performance by electronic transmission in such a way that members of the public may access the recording from a place and at a time individually chosen by them".[126] The making available right therefore means, for example, that someone infringes on the rights of a performer under UK law if they enable others to make copies of a copyrighted work, even if they themselves do not issue the copies. As noted by prominent streaming auditor and accountant Colin Young, the Copyright, Designs and Patents Act does not extend the right to equitable remuneration where a work exploits the making available right.[127]

29. Music streaming is a particularly complex case in terms of the rights that are exploited when a track is consumed via a streaming service. Although both the song and recording rights of a single track are exploited simultaneously, each falls under a distinct legal characterisation.[128] On the one hand, the streaming of a recording is treated as 'making available'. On the other hand, the song rights are treated as both a 'public performance' communication to the public of a work and a 'mechanical' reproduction thereof. As discussed, where a communication to the public occurs (except by 'making available'), all parties are remunerated equitably. Where music consumption is classified as a 'mechanical' or 'making available', the creators are remunerated in accordance with the terms of their publishing or recording deals respectively by the companies that their rights are assigned to, licensed by or distributed with.

120 Copyright, Designs and Patents Act 1988, section 16
121 Copyright, Designs and Patents Act 1988, sections 17–21
122 Copyright, Designs and Patents Act 1988, sections 29–30A
123 The Copyright and Related Rights Regulations 1996, section 21; Copyright, Designs and Patents Act 1988, sections 182A-C
124 The Copyright and Related Rights Regulations 1996, sections 21–2; Copyright, Designs and Patents Act 1988, sections 182D, 191F-G
125 International Federation of Musicians (FIM) (EMS0025)
126 The Copyright and Related Rights Regulations 2003, section 7; Copyright, Designs and Patents Act 1988, section 182CA
127 The Copyright and Related Rights Regulations 2003, section 7; Copyright, Designs and Patents Act 1988, section 182D; CC Young & Co Limited (EMS0077)
128 CREATe: UK Copyright and Creative Economy Centre, University of Glasgow (EMS0189)

How rightsholders are remunerated

Performers and record labels

30. Relatively speaking, performer remuneration is a straightforward process. First, the record label or distributor receives revenues for the recording (i.e. 55 percent of the gross revenue pot, or approximately 80 percent of the royalty pot). Next, the label or distributor pays the performer according to the terms of their contract. Though record deals are individually negotiated between the relevant creative and corporate parties, there are several broad types of agreement a recording artist might negotiate with a record label: a traditional recording agreement, a distribution deal or a label services deal (though labels and artists may negotiate a range of terms).[129]

31. Under a traditional recording agreement, an artist will assign their rights to the recordings produced under the terms of the deal exclusively to the record label, in exchange for an advance (i.e. an up-front fee) and either royalties (once certain costs have been 'recouped') or a share of the profits. These are known as 'advance and royalties' and 'advance and profit share' deals respectively.[130] In terms of the monetary split, an 'advance and royalties' deal will favour the record label, with the performer receiving between 12 and 30 percent depending on when they signed and their prior popularity and success.[131] These deals are most often offered by the major record labels.[132] Under a distribution deal, the record label agrees to distribute recordings to music streaming services on behalf of an artist for a distribution fee of approximately 15–20 percent of revenues. Under a label services deal, the label provides the services of a distribution deal alongside marketing and promotional services for a slightly higher fee (of roughly 25–30 percent). Alternatively, a label may exclusively license finished recordings for a short period from a third party on the terms of a traditional agreement (albeit with a higher advance and royalty rate, as the third party must subsequently pay the artist that it in turn has acquired the rights from).[133] Otherwise, an artist may decide to self-release altogether. To do this, they must release their music through a distributor or aggregator to upload their music onto streaming services in return for a flat fee per track, but without the services associated with a record label, such as promotion, marketing and data insights.[134]

Songwriters, composers and music publishers

32. For the song rights, the process is much more complex. First, the song revenues (i.e. 15 percent of the gross revenue pot, or approximately 20 percent of the royalty pot) are split evenly between the mechanical and public performance. For the public performance, both the publisher and songwriters and/or composers split the revenues equally due to the right to equitable remuneration. The revenue is paid to their collecting society, who then pays the rightsholders accordingly.

33. For the mechanical, the publisher and songwriters and/or composers are paid according to the terms of their deals. Unlike record deals, publishing deals between music publishers and songwriters are often more generous (albeit at face value, given that the song receives a much smaller percentage of streaming revenues).[135] The most common

129 BPI (EMS0208)
130 BPI (EMS0208)
131 Q84; BPI (EMS0208)
132 Q2
133 BPI (EMS0208)
134 BPI (EMS0208)
135 Music Managers Forum and Featured Artists Coalition (EMS0128)

types of deal are individual song agreements, where a songwriter assigns their rights in specific works to a publisher in exchange for a portion of revenue, and exclusive songwriter agreements, where a songwriter assigns all works created during a specific time in exchange for a share of generated income and monthly or termly payments that are treated as recoupable advances. Other types of agreement are co-publishing agreements (where songwriter and publisher co-own the copyright and the songwriter also takes a share of the publisher's income), participation agreements (which are similar to co-publishing but without co-ownership), and administration agreements (which allow publishers to license a song for a period of time for an administration fee).

The consumer experience

Consumer benefits from streaming

34. There is a wide-ranging consensus that the consumer benefits significantly from (and therefore values[136]) the current music streaming model. There are two (related) reasons for this: price and service offering. For relatively cheap monthly price plans, consumers generally receive an 'all-you-can-eat' service,[137] where they can stream any track in their service's catalogue as often as possible (though some freemium streaming service providers, such as Spotify and Amazon, typically restrict access to some or all on-demand tracks to premium users only to incentivise their premium services). Professor Ruth Towse argued that "the subscription fee is set not with respect to the market for recorded music but in relation to those by competing platforms" and that "so far there has been no price war between music streaming services".[138] As the nominal prices of streaming subscriptions have been fixed at the aforementioned price plans for over a decade, which means that the consumer has experienced a fall in price in real terms amounting to 26 percent in total over the same period when the nominal price is considered against inflation.[139] Prices are also set at the same nominal price in most currencies (i.e. individuals pay £9.99 in the UK, €9.99 in the Eurozone and $9.99 in the United States),[140] demonstrating a lack of price parity for streaming services for consumers in different countries. As a result, UK consumers spent just over £1 billion on music streaming subscriptions in 2019, up from £812 million in 2018.[141] Furthermore, streaming has again made tracks available to consumers that record labels previously no longer considered economically viable to continue pressing and releasing.[142] As such, more legitimately licensed music is now available to consumers and for cheaper prices, if consumers pay at all. As legendary musician and three-time Grammy Award winner Nile Rodgers told us, "if I were a young person coming up right now, I now have access to more music than I ever had before".[143]

35. Conversely, if consumers still find these services prohibitively priced then they can instead stream in the same 'all-you-can-eat' fashion via YouTube's free, ad-funded, user-uploaded video-sharing service. Though YouTube does impose some friction on the consumer, such as advertising and online-only playback (like other free services) and no background playback for mobile users, it is the dominant music streaming service.[144]

136 Dr Nicola Searle (EMS0041)
137 Dr Nicola Searle (EMS0041)
138 Bournemouth University (EMS0048)
139 Q18; Association of Independent Music (EMS0157)
140 Bournemouth University (EMS0048)
141 Internet Association (EMS0164)
142 Q513 [Horace Trubridge]
143 Q197
144 "YouTube is the no.1 music streaming platform - and getting bigger", Music Business Worldwide, 6 July 2015

In 2017, for example, a consumer insight report by the IFPI found that YouTube was responsible for 46 percent of all on-demand music streaming time, which was more than Spotify, Apple, Tidal, Deezer and Napster combined,[145] whilst data from the Recording Industry Association of America (RIAA) showed that that YouTube commands at least a 51 percent global market share in terms of streams.[146] In 2018, a subsequent IFPI report stated that as many as 35 percent of music streaming consumers cited user uploaded services like YouTube as the foremost reason why they do not acquire a premium subscription.[147] Polling in 2020 found that user-uploaded video-sharing sites were the service of choice for younger demographics in particular, with 70 percent of American 12 to 34-year olds responding that they used YouTube for music or music videos (compared to 50 percent of all American respondents) whilst 56 percent of UK 8 to 15-year olds used YouTube and Vimeo for the same purpose.[148]

Changing consumption habits

36. Consumer habits are changing in response to the advent of music streaming, and successful music industry actors have responded. UK consumers streamed recorded music 114 billion times via audio-only subscription services (i.e not YouTube and other video streaming services) in 2019 alone, which marked the first time streaming exceeded 100 billion plays.[149] Streaming is also growing contemporaneously to a decline in physical revenue, which fell by over 5 percent between 2018 and 2019.[150] Meanwhile, streaming is also cannibalising radio listening, particularly amongst younger audiences: one study in 2016 found that millennials only listened to the radio 12 percent of the time on average compared to 35 percent for the general population, but used on-demand streaming services 51 percent of the time on average compared to 24 percent for the general population.[151] Written evidence from the IFPI asserts that, globally: 89 percent of consumers now access their music through on-demand streaming; 83 percent of 16 to 24-year olds use audio streaming platforms; and 47 percent of consumers said streaming was the most convenient way to access music.[152] Research has also found that music streaming consumers have differing tastes on aggregate relative to the tastes of the broader UK population: rock music, for example, tends to be underrepresented on streaming services' top 50 songs whilst hip-hop tends to be overrepresented.[153] Moreover, research has suggested that music consumption has become more task- and mood-centric, which creates additional signals for marketers to base targeted advertising on.[154] The influence of this approach can be seen on the BBC Sounds app, which itself offers human-curated "music mixes" around topics centred on specific artists, events or moods.[155]

37. Underpinning this convenience and change in habits and tastes are new forms of music curation, such as playlists. The International Federation of Musicians (FIM) argues that:

145 "Report: YouTube Is The Most Popular Site For On-Demand Music Streaming", Forbes, 27 September 2017
146 Q44; Sonstream Ltd (EMS0154); Kirstian Taylor (EMS0198); Isaac Neilson (EMS0201)
147 Pete Woodroffe (EMS0018)
148 Musicians' Union (EMS0080)
149 Internet Association (EMS0164)
150 Internet Association (EMS0164)
151 "Millennials Aren't Very Interested In Traditional Radio Any More", Forbes (12 July 2016)
152 IFPI (EMS0209)
153 MIDiA Research (EMS0073)
154 Dr Gary Sinclair (EMS0019); International Federation of Musicians (FIM) (EMS0025)
155 BBC (EMS0227)

> For consumers, curated playlists have gradually replaced thematic broadcasts. There is one playlist for each moment of the day: wake-up, breakfast, work-out, relaxation, meditation, running, partying etc. One single click of a button and music is on for the next 30 minutes or the entire evening or night. No further action is necessary: the tracks that fit your taste or mood are selected for you by a third party and pushed to your device—whether a phone, a smart speaker or hi-fi gear.[156]

There are three types of playlist as pertains to streaming. User-created playlists are discrete series of tracks, played sequentially, shuffled or skipped through, curated by individual users according to their own preferences.[157] Editorial playlists are those created by music streaming services' own teams or by high-profile affiliated curators.[158] Finally, algorithmic playlists are those generated by streaming services' automated recommendation systems, which approximate user preferences through a Bayesian machine learning paradigm based on big data derived from signals such as a user's previous listening patterns, manual searches and the listening patterns of other users. In other words, streaming services use machine learning to create personalised playlists by continually learning about a user's preferences from their streaming history, which is gathered and used continuously by the system. This individualised user experience sets streaming services apart from pre-existing one-to-many music broadcasts such as radio. Playlists, alongside user experience, is one of the key means by which streaming services differentiate themselves from others in the market.

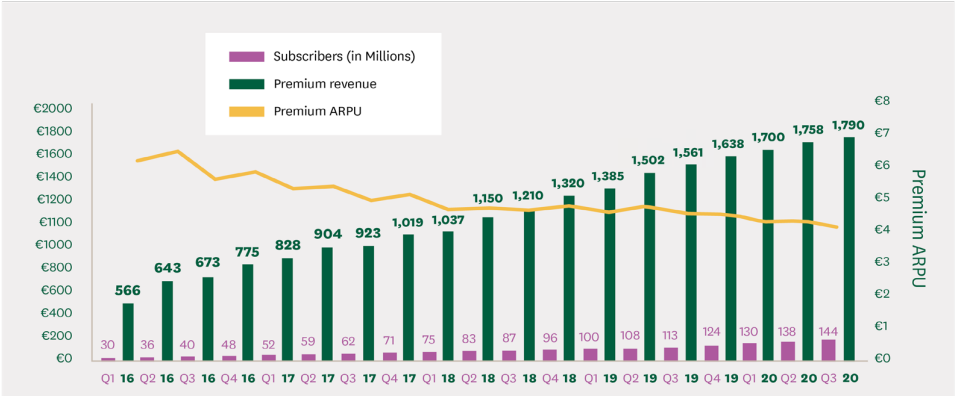
156 International Federation of Musicians (FIM) (EMS0025)
157 BPI (EMS0208)
158 BPI (EMS0208)

Potential consequences of current trends

Average revenue per user

Spotify's global premium revenue, number of subscribers and average revenue per user (ARPU), 2016–2020

Spotify's global premium revenue, number of subscribers and average revenue per user (ARPU), 2016-2020



Source: MIDiA Research (EMS0073)

38. Though streaming has realised price and convenience benefits for recorded music consumers, there are potential consequences for them too if the issues with streaming continue. Several submissions have noted that there has been a continuous fall in average revenue per user (ARPU) for streaming services and therefore, by virtue of the revenue-share model described above (see paragraphs 24–33), the music industry. Spotify recently reported that, between 2016 and 2020, ARPU has fallen by €6,38 to €4.19, equivalent to 34 percent.[159] This has been driven by several factors, including a rapid growth in subscribers, increased intensity of consumer usage, real-term price decreases, the growth of free trials, bundles, discounted tiers and multi-user plans and lower ARPU in emerging markets.[160] This may be exacerbated by the recent announcements by Spotify and Apple that the services will offer lossless audio streaming with standard subscriptions (as opposed to services like Tidal who offer high-fidelity audio at a higher price).[161] There are some causes for optimism (from an industry standpoint) however. Will Page notes that consumers have more money to spend and are spending more of it on music, asserting that, since 2014, "gross disposable income has increased by 20 percent, whereas music's share of wallet has increased by 25 percent".[162] But this is a relatively short-term view, set against the legitimate industry's nadir when piracy was at its height. Recorded music revenues

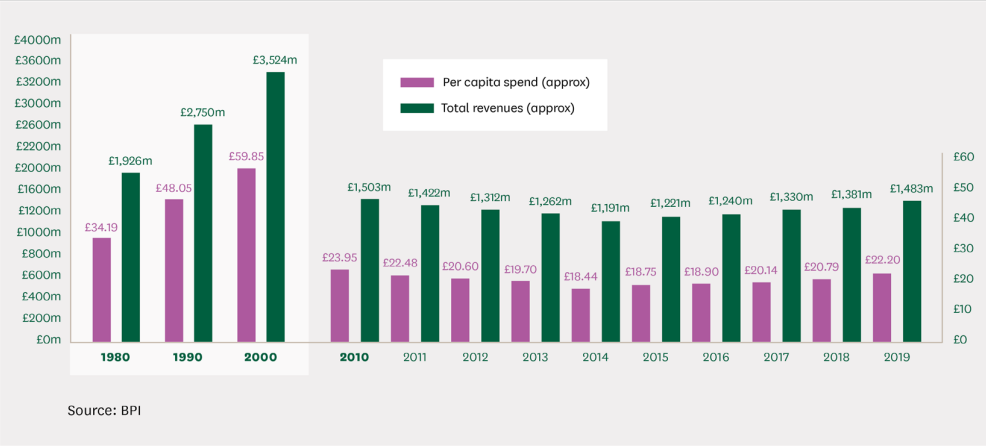
159 MIDiA Research (EMS0073); Helienne Lindvall (EMS0112); Aubrey Brocklebank (EMS0211)
160 MIDiA Research (EMS0073); Association of Independent Music (EMS0157); PRS for Music (EMS0158); BPI (EMS0208)
161 "Spotify and Apple Music will offer lossless audio. Here's what you need to know.", Mashable UK (28 May 2021)
162 Will Page (EMS0166)

remain much lower in real terms than they were 20 or 30 years ago, but have been rising since 2014. MIDiA Research argues that there are indications of consumer tolerance for higher prices[163] though the #BrokenRecord campaign says that this is dependent on how this money is distributed.[164]

(Approximate) per capita music spend and total revenues, in constant 2020 prices

(Approximate) per capita music spend and total revenues, in constant 2020 prices

Inflation-adjusted figures showing the partial economic recovery to the recorded music industry



Source: BPI

Social trends

39. This may subsequently impact the long-term creation of music. Academics Peter Ormosi and Franco Mariuzzo hypothesise that, although consumers "have low-price access to an unprecedented selection of music, the long term damage can be more severe if the current revenue structure leads to a loss in music variety, as independent artists cannot recoup their investment because they are being foreclosed from receiving revenue from online streaming".[165] The BPI similarly warns that editorial and algorithmic curation could "lead to overly narrow music recommendations being made and trap users in the 'echo chamber' of their pre-existing tastes".[166] Indeed, academic evidence already suggests that streaming has exacerbated the "hits-driven preferences of consumers".[167] Soweto Kinch, a successful jazz saxophonist, composer and MC, told us that streaming had defunded jazz music by approximately 3 to 6 percent because of the 'winner-takes-all' approach to revenue splits, despite the genre demanding greater relative production costs due to greater composition and recording time and the costs of remunerating big band musicians.[168]

163 MIDiA Research (EMS0073)
164 Qq18–9 [Tom Gray]
165 Dr Peter Ormosi and Dr Franco Mariuzzo (EMS0076)
166 BPI (EMS0208)
167 Dr Nicola Searle (EMS0041)
168 Q193

Consumer awareness

40. There appears to be little consumer awareness about the debates that currently rage within the music industry. Academic research has found that the majority of consumers do not understand how artists are compensated when their music is streamed and do not factor in or prioritise ethical artist compensation into their decision-making processes; this was speculated to be a consequence of the lack of media coverage regarding the low artist remuneration at the time of research[169] (though it should be noted that we have observed significant media interest in this subject both before and throughout our inquiry). However, where there is awareness, the public appears to support the creators' perspective. A recent YouGov survey, commissioned by the #BrokenRecord Campaign, found that the overwhelming majority of surveyed music streaming service subscribers felt that artists and songwriters are underpaid, record labels and streaming service providers are overpaid, and that session musicians should receive some form of compensation from streaming.[170] It also found that whilst the majority (61 percent) of respondents said that they would not be willing to pay more for music streaming under current remuneration arrangements, approximately half of these same respondents stated that they would pay more if an increase in their subscription went directly to the writers and artists they listen too.[171] Evidence from Patreon, a digital platform where users can pay a monthly or annual subscription to creators they follow, supports this sentiment, claiming that the number of musicians on their platform and the total revenue generated for musicians through its service doubled between October 2019 and 2020.[172] It should, however, be noted that conclusions drawn from polling or Patreon's own performance does not account for factors on consumer tolerance of price, such as the price of competing services, consumer income, and so on, or qualitative analysis as to whether Patreon users could be considered atypical 'superfans' willing to spend more on particular artists than music casual fans.

41. **Streaming has undoubtedly helped save the music industry following two decades of digital piracy but it is clear that what has been saved does not work for everyone. The issues ostensibly created by streaming simply reflect more fundamental, structural problems within the recorded music industry. Streaming needs a complete reset.**

169 Dr Gary Sinclair (EMS0019)
170 #BrokenRecord Campaign (EMS0218)
171 The Ivors Academy of Music Creators (EMS0197)
172 Patreon, Inc. (EMS0110)

3 Creator remuneration

42. Creator remuneration was the fundamental issue raised by our inquiry and this chapter will consider how revenues flow from streaming platforms to the music industry. Will Page, visiting fellow at the London School of Economics and former chief economist at Spotify, argues that whilst streaming has returned the recorded music industry to profit, music creators—that is, performers, songwriters and composers—have not proportionately shared this benefit.[173] Mr Page observes that:

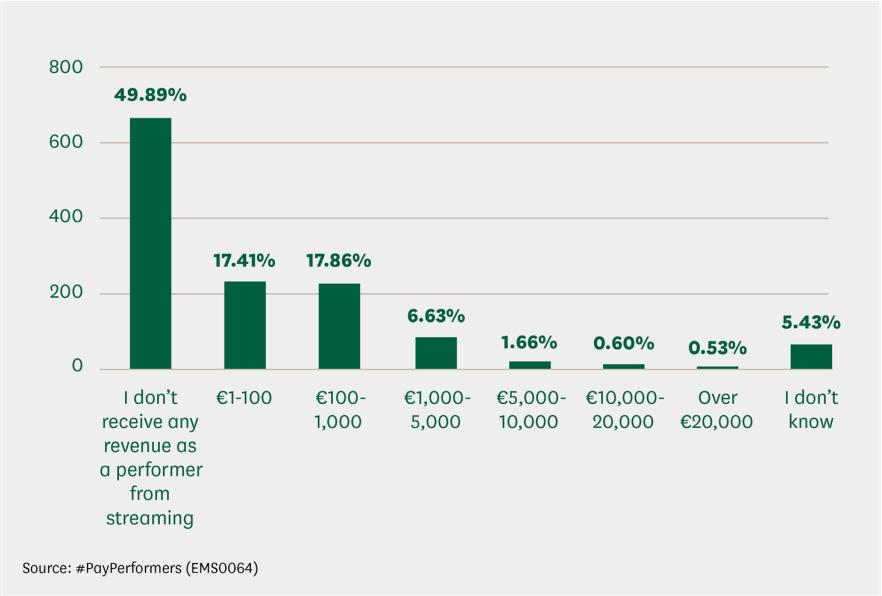
> For labels, the music industry is thriving. Between 2015 and 2019, the streaming-led recovery boosted UK major label turnover by 21 percent and operating profit margin increased from 8.7 percent to 11.8 percent. The recorded music business not only got bigger, but also much more profitable for record labels. Artists, however, have not received proportional benefit.[174]

Whilst commercial music creation is intensely competitive, it is reasonable to expect that at least professional musicians, who otherwise are able to support their livelihood with live music income, are similarly participating in this recovery. Instead, income from recorded music is meagre. One illustrative member survey by the Ivors Academy and Musicians' Union, for example, found that in 2019, 82 percent of professional musicians made less than £200 from streaming, whilst only seven percent made more than £1,000.[175] Furthermore, 91 percent of respondents stated that they earned less than £200 from their most played track across all platforms in 2019.[176] In the context of the Covid-19 pandemic, where other income streams have necessarily dried up, this situation has become untenable.

173 Will Page (EMS0166)
174 Will Page (EMS0166)
175 The Ivors Academy of Music Creators (EMS0197); see also Q165–6, 171 [Fiona Bevan], 194 [Soweto Kinch]
176 The Ivors Academy of Music Creators (EMS0197)

#PayPerformers Campaign survey results regarding remuneration from streaming from UK performers, 2020

#PayPerformers Campaign survey results regarding remuneration from streaming from UK performers, 2020



Source: #PayPerformers (EMS0064)

43. First, this Chapter will consider the impact of the terms under which rightsholders are remunerated that were set out in Chapter 2: that is, how streaming revenue is allocated between the rights in the song and recording, and similarly how these revenues are divided between the creative and corporate partners. On the song side, issues with income are caused by the way in which industry revenues are initially divided; this has repercussions for songwriters and composers, as well as music publishers. On the recording side, creator remuneration is due to the terms under which performers are paid; this Chapter will consider the impact of this on creators and their dependent creative ecosystems, as well as some solutions. Finally, this Chapter will examine technical barriers to creator remuneration: specifically, issues with the metadata and songwriting royalty chains, which compound with issues of rightsholders' remuneration.

Remuneration of recording rightsholders

Impact on performers

Artists on record deals

44. Because streaming is exploited by the 'making available' right under UK copyright law, performers who are signed to a record deal are paid according to the terms of their contract with their record label from streaming revenue. This differs from other forms of music consumption, such as a rental, license, or broadcast. A typical record contract will

make several stipulations, such as the minimum number of recordings per period (usually one album), the number of options to extend the agreement (usually three or four) and the length of time a performer assigns the rights to the music they create, which is typically the 'life of copyright' (which in the UK is 70 years).[177] Importantly, the contract will also set the performer's royalty rate. Performers signed with independent record labels are sometimes signed to 'advance and profit share' deals, where the performer and label share the profits from a recording according to an agreed proportion (usually 50:50).[178] However, for an emerging performer on an 'advance and royalty' deal (commonly known as the 'standard record deal'), which is the predominant type of deal for a performer signed to a major record label (who, as will be discussed in Chapter 4, dominate the market for recording rights), this is likely to be between 20 to 24 percent of recording revenues (minus fees for the record producer), with the rest accruing to the label.[179] For more established performers who are out-of-contract or renegotiating, this might rise to 25 to 30 percent, depending on their career success.[180] Historically, royalty rates for performers with pre-digital 'legacy contracts' have been even worse: in the early 1960s, established bands were only receiving royalties of between two and four percent, whilst musician, songwriter and Rock and Roll Hall of Famer Ed O'Brien told us that Radiohead's deal, signed in 1991, put the band on a 12 percent royalty.[181]

45. Moreover, a contract will also establish which costs of production are to be covered by the record label (such as manufacturing, packaging, distribution, marketing and touring) and which costs are recoupable against future revenues.[182] Under an 'advance and profit share' deal, recoupable costs are earned out from total revenues (which effectively means that they are recouped from both the performer and label's share of the revenues until the recording becomes profitable).[183] Under an 'advance and royalty' deal, however, the performer's advance and any negotiated recoupable costs are earned out from the performer's royalties only. Colin Young described the challenges facing performers to recoup on their deals:

> The challenge is to recoup that within the cycle, because you have a two-year period, in essence, you have to recoup it by, before the next advance is given and the next recording costs. The costs are immediate on to the ledger; the income is delayed. The domestic income will appear there in the period January to June, July to December, but the overseas will be delayed by six months. That is the challenge: 20 percent of the income, 100 percent of the costs and you only have a limited window to recoup it in. That is difficult.[184]

These types of deal also pose the obvious and highly questionable dilemma whereby, because the costs are recouped against a minority of the income, a recording's total revenue might have in actuality exceeded the total costs of production and the performer's advance well before the label has theoretically recouped under the terms of the contract and begins paying royalties to the performer. For example, taking a simple model to illustrate and

177 BPI (EMS0208)
178 Verity Susman (EMS0136); Association of Independent Music (EMS0157); BPI (EMS0208); Q3
179 Qq4 [Colin Young], 53 [Tom Frederikse, Colin Young]
180 Q53 [Tom Frederikse, Colin Young]
181 Qq53 [Tom Frederikse], 83–4
182 BPI (EMS0208)
183 Q3
184 Q4

assuming recoupable costs of £10,000 and a royalty rate of 25 percent, total revenue would have to exceed £40,000 (of which £30,000 would accrue to the label in profit, minus any non-recoupable costs) before the performer would receive any royalty payments. As Nile Rodgers mused:

> The running joke in the music business, ever since I have been in it, all my life—I am 68 years old—is that the music business is the only business where after you pay off the mortgage on the house they still own the house. It does not make any sense. There is no other business on earth that does that. We pay back all the royalties, and they still own our property. It is ridiculous.[185]

46. However, a minority of independent labels do forgive debts after a certain period of time. 19 percent of record labels that are AIM members have a policy of writing off debt, of which the average is ten years;[186] Beggars Banquet, one of the UK's largest independent labels, writes off debt after 15 years.[187] However, many labels do not, meaning that many deals that were signed decades ago are still recouping against initial production and distribution costs. Horace Trubridge, General Secretary of the Musicians' Union, argued in oral evidence that "every other area of business writes off bad debt after six years, but not record labels; if you owed them some money from the 1970s, you still owe them that money, and they will not pay you any royalties".[188] However, in a positive move, Sony (who answered questions on this subject in evidence to the Committee) recently announced that it would "pay through on existing unrecouped balances to increase the ability of those who qualify to receive more money from uses of their music" for deals made before 2000 (though at the time of writing Universal and Warner have not similarly followed suit).[189] ***We urge Universal and Warner to look again at the issue of unrecouped balances with a view to enabling more of their legacy artists to receive payments when their music is streamed.***

47. Moreover, there is evidence that this has been inconsistently applied. A written submission from Hipgnosis notes that singer-songwriters Seal and Enrique Iglesias have been paid at a 50 percent licence rate for streaming revenue by their record labels; in the latter case, Iglesias's share was subsequently reduced to his royalty rate after two years, which resulted in a lawsuit and settlement out of court subject to a non-disclosure agreement.[190]

48. The issue of unfair contracts is exacerbated when considered against the relatively meagre returns from streaming, even as streaming itself is displacing other forms of music consumption and has emerged as the dominant modality.[191] According to the Office of National Statistics, professional musicians earned an average of £23,059 in 2018 , well below the national average of £29,832, despite themselves contributing £1.1 billion to the UK's export revenue alone in the same year.[192] Despite this, 92 percent of performers

185 Q179
186 Association of Independent Music (EMS0157)
187 Verity Susman (EMS0136); Musicians' Union (EMS0258); Q347 [Rupert Skellett]
188 Q513
189 "Sony Music writes off artists' decades-old debts", BBC News (11 June 2021)
190 Hipgnosis Songs Fund Limited (EMS0237)
191 International Federation of Musicians (FIM) (EMS0025); Ben Sizer (EMS0050); Chris Whitten (EMS0096); Artistas Intérpretes o Ejecutantes, Entidad de Gestión de Derechos de Propiedad Intelectual (AIE) (EMS0133); BPI (EMS0208)
192 The Ivors Academy of Music Creators (EMS0197)

claim that less than five percent of their earnings comes from streaming.[193] Nadine Shah, a critically acclaimed, *Mercury*-nominated musician and songwriter, told us about the dual impact of poor remuneration from streaming and the devastation of live music caused by the pandemic:

> As an artist with a substantial profile, a substantial fan base, critically acclaimed, I don't make enough money from streaming. I am in a position now where I am struggling to pay my rent and I am embarrassed to talk about these issues publicly. I am embarrassed to talk about them for many reasons, because money to an extent is an indication of success. Here that is not really the case because I am a successful musician but I am not being paid fairly for the work that I make. As I first said in this session, often artists are encouraged not to ask these questions.[194]

49. As such, musicians have become over-reliant on touring and live music income: 70 percent is estimated to be due to live music.[195] As Ed O'Brien told us in oral evidence, "for so long live income has been like band-aids".[196] This has led many performers to treat streaming services as a promotional tool rather than a sustainable form of income. Several musicians noted that a presence on streaming services is necessary to be discovered and 'heard', meaning that withdrawing works from these services is not practical and could stymie future success.[197] One performer, meanwhile, noted that venues and promoters have come to expect a Spotify presence and use this to evaluate whether to book an act.[198] Consequently, musicians' income streams have become much less diversified than the decades prior to digital piracy.[199] Furthermore, several performers argued that recording music and performing live have become inexorably linked, as recording music would be unviable without touring but touring typically is prompted to promote the release of new records.[200]

50. Despite this, performers are set to face further pressures to live income due to the ongoing issue with EU travel arrangements for creatives. Historically, touring in Europe has been an important source of revenue for British musicians, as Colin Young argued on 24 November 2020:

> A musician, his revenue, 70 percent will be from live performances and the cream is to be had in the summer festival season. It is pure profit and Europe has totally transformed that. Any obstacle is bad for live touring in Europe, so whether it is going to be visas, whatever it is, it is going to be bad.[201]

Negotiations between the UK and EU, which led to the Trade and Cooperation Agreement (TCA) that came into force on 1 January 2021, did not result in provisions for short-term travel for creatives or associated technical and support staff. This has created barriers affecting both the movement of musicians and their supporting ecosystem (in the form of

193 The Ivors Academy of Music Creators (EMS0197)
194 Q75
195 Will Page (EMS0166)
196 Q78
197 Niall Parker (EMS0267)
198 Thomas Verity (EMS0152)
199 Chris Whitten (EMS0096)
200 Marcus Cain (EMS0049) ; Anna Neale (EMS0058); Martin Green (EMS0127); Matthew Tong (EMS0155)
201 Q60

visas and work permits) and the movement of goods such as equipment and merchandise. As Tom Gray noted, this could add a considerable financial and bureaucratic burden on performers:

> I performed across Europe for 20 years and to go into Switzerland you had to fill in a thing called a Carnet. It cost several hundred pounds and you had to itemise every single piece of equipment and merchandise that you were carrying with you.[202]

The financial burden imposed by these costs therefore impact performers' most important source of income and exacerbate existing issues with remuneration from streaming.

51. There are also concerns that the economics of streaming entrench historically successful artists and create barriers for new performers. Of the four UK acts who featured in Billboard's top 10 worldwide music tours of 2019 only Ed Sheeran released a debut single in the last 50 years (with the other three being Elton John, the Rolling Stones and Sir Paul McCartney).[203] Meanwhile, it has become an industry norm that costs of producing music, such as for space and equipment, are falling to creators. Whilst externalising costs of production is beneficial to corporate margins, it raises barriers of entry for musicians who cannot access the means to cover these costs. Evidence we received cited Maria Schneider, a jazz musician and composer, who has previously observed that "many, if not the vast majority of record companies, are no longer advancing money for a lot of music on their labels, whilst creators are sinking tens of thousands of dollars into making their own records".[204] Written evidence to this inquiry supported that observation[205] and 43 percent of professional musicians told YouGov that insufficient income from streaming has caused them to look for jobs outside of music.[206] Several musicians via written evidence argued that they or their peers have been forced to subsidise making music with other employment, which subsequently further reduces the resources and time available to devote to making music.[207] Other performers have noted that it has been more sustainable to carve a niche in creating music for television, film and advertising,[208] or in creating 'muzak' or background music optimised for mood playlists.[209]

Non-featured artists

52. Musicians releasing music to streaming services, including those on record deals, do so as the 'featured artist'. Featured artists are performers whose names are credited within the title of a record release.[210] In contrast to featured artists, non-featured artists are performers whose names are not prominently featured on the release of a recording.[211] Non-featured artists are typically session musicians (professional artists such as backup vocalists, orchestral players or specialist musicians who are hired to perform on a recording or tour on a 'work-for-hire' basis)[212] who have transferred their performers' rights to the

202 Q62
203 The Ivors Academy of Music Creators (EMS0197)
204 All Party Parliamentary Jazz Appreciation Group (EMS0161)
205 Leaone (EMS0054)
206 The Ivors Academy of Music Creators (EMS0197)
207 Marcus Cain (EMS0049)
208 Henry Bird (EMS0132); Verity Susman (EMS0136)
209 Q36
210 Anthony Hamer-Hodges (EMS0206)
211 Chris Cooke, *Dissecting the Digital Dollar*, 3rd edition (Wrocław, 2020)
212 Association of Independent Music (EMS0157); BPI (EMS0208)

producer of the recording in exchange for a one-off payment.[213] The minimum rate for this payment is negotiated through periodic collective bargaining agreements between the BPI, representing record labels, and the Musicians' Union, representing session musicians.[214] The current agreement, negotiated in 2019, is set at £130 for a standard three hour session or £43.33 per hour, which increases to £48.60 per hour (and with a minimum session length of two hours).[215] Other aspects of the agreement include: a five minute break every hour in a standard session; limits whereby a record label can only use 20 minutes of recorded performance per session; and additional payments for overtime, overdubbing and bank holiday employment.[216]

53. Because non-featured artists transfer their rights in exchange for a one-off session fee rather than a royalty, they are effectively 'bought out' of their rights to future revenues, including from streaming.[217] This means that, when a track that includes contributions from one or more non-featured artists is streamed, downloaded or purchased physically, those artists are not paid. Instead, session musicians are only entitled to an equal share of 20 percent of gross revenues from physical and online sales, which is referred to as the non-featured performers fund or session fund, after 50 years since the publication of the recording.[218] The exception to this is where UK law provides performers with a right to equitable remuneration, such as when recorded music is played in public or broadcast via radio.[219] Because this right legally cannot be transferred or waived, in these instances non-featured artists receive a payment alongside (albeit at a lesser rate than) featured artists from the performers' overall share. Where a recording is incorporated in a music video or is used as a backing track for performers to mime or sing live within a broadcast, session musicians have also been entitled to subsequent annual payments since 2012. However, these payments have amounted to only approximately £2,708,000 in total for all session musicians between 2012 and 2020.[220]

54. Session musicians fulfil several important roles in the creation and performance of recorded and live music, both through their creativity, skill and expertise in their own right but also as a pipeline for new talent to emerge.[221] However, their reliance on session fees to earn a living has been particularly impacted by the Covid-19 pandemic. Written evidence from several session musicians (or those who started their careers as session musicians) argued that the terms of the BPI/Musicians' Union agreement are unfair because they "[deprive] session musicians of fair and legal remuneration for the exploitation of their performances" and that the agreement itself is worded so that it will apply unilaterally to any "hereafter created" format.[222] The Musicians' Union itself criticised the status quo, arguing that as streaming displaces radio, it reduces opportunities for session musicians to participate in equitable remuneration for their recordings.[223] Many prominent featured artists, such as Nile Rodgers, Tom Gray, and Bloc Party's Matthew Tong, also cited the lack

213 Intellectual Property Office, Performers' rights, 16 October 2019
214 Association of Independent Music (EMS0157)
215 BPI (EMS0208)
216 BPI (EMS0208)
217 Association of Independent Music (EMS0157); Robin Firman (EMS0017); Anthony Hamer-Hodges (EMS0206)
218 Intellectual Property Office, Performers' rights, 16 October 2019; Musicians' Union, Session Fund, accessed 12 May 2021
219 Robin Firman (EMS0017); International Federation of Musicians (FIM) (EMS0025)
220 BPI (EMS0208); Musicians' Union, Subsequent Payments for Music Videos, accessed 12 May 2021
221 Robin Firman (EMS0017); Peter Oxer (EMS0031); Just East of Jazz (EMS0079)
222 Robin Firman (EMS0017); Peter Oxer (EMS0031); Anna Neale (EMS0058); Just East of Jazz (EMS0079); Dr Gareth Bonello (EMS0069); Chris Tombling (EMS0093); Joe Newman (EMS0083); Thomas Verity (EMS0152)
223 Q505 [Horace Trubridge]; Musicians' Union (EMS0080)

of remuneration for session musicians from streaming as a salient issue.[224] Ed O'Brien noted that, as a solo artist, his band rely on income from touring but have also, during the pandemic, been excluded as freelancers from Government support packages; Mr O'Brien told us that his bass player, for instance, has said that "'I am going to have to take a year out and this is a chance to do an MA or something'".[225] Though the Minister for Digital and Culture, Caroline Dinenage MP, refused to state whether she thought the lack of remuneration for session musicians from streaming was fair due to the "wildly differing views" between stakeholders, she did emphasise the contributions of all musiciansincluding that of session musicians—to recorded music production and sympathised with their position, noting that "it seems that there is a disparity […] between what happens on the radio and on streaming and yet the contribution of all the talented artists on the piece of music is no different".[226]

55. Submissions from both the BPI and AIM, however, asserted that session musicians are remunerated fairly on the basis that they are paid up-front regardless of the success of the recording and thus are not exposed to the risk of a release not being commercially successful.[227] Moreover, the BPI emphasised that, "where the recordings are successful, they enjoy certain further payments" from specific formats.[228] By contrast, AIM warned that any attempt to redress the disparity for session musicians could result in session fees being reduced to compensate for the margin reduction to "investors" (i.e. the record labels), fewer session musicians being used and that any alternative, success-based model would "favour the few session musicians who play on the small percentage of very successful tracks".[229] Similar to its perspective on featured artists, the BPI argued that "the most important element in securing future earnings […] to increase the overall size of the recorded music sector, so that labels can invest in more recordings and hence, more recording sessions".[230] However, AIM's submission did recognise that "minimum rates for sessions negotiated between the BPI and Musicians' Union have not increased dramatically", despite session musicians not participating in booming revenues from streaming. Moreover, neither submission considered why session fees might automatically decrease given that these fees are subject to collective bargaining by the Musicians' Union and the BPI, nor why there would necessarily be a reduction in the number of session musicians if greater performer remuneration instead underpinned greater financial incentives for more and more wide-ranging music to be created.

Artist business partners

56. Whilst creators perform the most fundamental and important part of the music industry—production of the 'raw material' on which the industry is based—they also often provide the foundation for a front-line business that aims to maximise the revenue that accrues from their creative output and enable further production. Although creators may operate these 'artist businesses' themselves, they are often supported by an ecosystem of employees and business and corporate partnerships that focus on and aim to develop one particular aspect of a creator's career.[231] Managers, for example, may run the day-

224 Qq10, 187
225 Qq77–8 [Ed O'Brien]
226 Q733 [Caroline Dinenage]
227 Association of Independent Music (EMS0157); BPI (EMS0208)
228 BPI (EMS0208)
229 Association of Independent Music (EMS0157)
230 BPI (EMS0208)
231 CMU (EMS0183)

to-day operations of the company; lawyers and accountants provide important legal and financial support and advice; and agents and promoters arrange the live music shows and tours that make up the primary revenue stream for most performers.

57. Diminishing returns for creators, both in the context of streaming but also in terms of live music and other modes of recorded music consumption, has had knock-on effects on this ecosystem. AIM's submission acknowledges that managers, who have traditionally worked on a 20 percent commission model on artists' net revenues, are "having to invest more and for longer when working with a developing artist" with no long-term security that they will see returns on this investment, unlike record labels.[232] Agents, similarly, work on commission for income that has since disappeared.[233] Road crews, made up of professional technicians and engineers required to facilitate live music events, face intense working conditions and increasingly precarious employment conditions despite their expertise.[234] The pandemic has subsequently forced many to seek alternative employment in lieu of lost revenue from live music and an absence of Government support.[235] Ed O'Brien in particular argued that "my crew people are not 'roadies'; they are proper technicians and engineers and I know that most of them have become delivery drivers—Amazon drivers".[236]

58. **The pitiful returns from music streaming impact the entire creative ecosystem. Successful, critically acclaimed professional performers are seeing meagre returns from the dominant mode of music consumption. Non-featured performers are frozen out altogether, impacting what should be a viable career in its own right, as well as a critical pipeline for new talent. Those that provide specialist support for creators, either based on commission or working as salaried staff as part of an artist's business or technical expertise, are also affected, meaning that fewer jobs will be sustained by an otherwise growing sector.**

Equitable remuneration

Current applications

59. Given that the benefits from streaming have disproportionately accrued to the record labels, it is unsurprising that many contributors to our inquiry have called for a right to equitable remuneration to be applied to streaming. The right to equitable remuneration (as explained in paragraphs 28–9 in Chapter 2) is a non-waivable, non-transferrable statutory right to payment when certain copyright controls are exploited. This is paid according to industry standard rates (which have no statutory basis), which currently stands at 50:50 between the label and performers.[237] Equitable remuneration is a proposed solution to many of the aforementioned issues facing performers. First, equitable remuneration is not subject to recoupment, meaning that performers would be paid when their tracks are streamed regardless of whether their recordings have earned out on the initial investment and expenditure.[238] As Horace Trubridge, General Secretary of the Musicians' Union,

232 Association of Independent Music (EMS0157)
233 Gordon Bennett (EMS0245)
234 Matthew Tong (EMS0155); Qq77, 104
235 Q78
236 Q77–8
237 Q10
238 Q17

explained, "when equitable remuneration came in for radio play, it was a lifeline" as "it meant that you had a source of income that the record companies could not get their hands on".[239] Second, equitable remuneration could help redress the some of the disparity faced by legacy performers who are paid according to the terms of pre-digital contracts at much lower royalty rates,[240] despite the fact that these artists often generate significant revenues for the industry.[241] Finally, it is non-waivable and non-transferrable. This means that performers cannot transfer away their right to equitable remuneration, even in instances where they may be negotiating with much more powerful parties (or otherwise feel pressured or intimidated into doing so).

60. Solutions for poor creator remuneration are popular with music consumers. A recent survey of streaming service customers, undertaken by YouGov on behalf of the #BrokenRecord Campaign, Musicians' Union and Ivors Academy, found that there is widespread public support for better remuneration for creators. 77 percent of respondents felt that performers were not paid enough, and 76 percent felt that songwriters and composers were underpaid.[242] 81 percent of respondents also wished to see session musicians receive some share of streaming revenue.[243] These sentiments perhaps underpin the success of tech companies like Patreon and Bandcamp, which allow artists to create fan communities and monetise this fanbase independently of corporate partners by offering exclusive or early access to creative content, merchandise, and other benefits.[244] Spotify similarly at the start of the pandemic launched a function for artists to raise donations for fans that became known as the Spotify 'tip jar'.[245] However, Nadine Shah was critical of the 'tip jar', arguing that it was an admission that the economics of streaming were not benefitting creators:

> Initially I thought, "This is interesting. This is another way of making money." I found it insanely condescending. It was an admission of sorts by that platform that says, "We know that you are not making enough." As I said earlier, when I have to talk about transparency and my earnings and what I make among my peers and my fans, I don't want to come across like I am cap in hand. I believe that I am worth and deserve to be treated better, but I believe that that was an admission that the system is not working for us and I found it very, very condescending.[246]

Furthermore, Ms Shah observed that emerging artists that had yet to build a dedicated fanbase would therefore not be able to rely on the additional support of superfans to make a burgeoning professional music career viable.[247]

The classification of streaming

61. Whilst calls for better creator remuneration from streaming have been prompted by the iniquitous distribution of the benefits of streaming, arguments to apply an equitable

239 Q505
240 Q84
241 Q513
242 The Ivors Academy of Music Creators (EMS0197); #BrokenRecord Campaign (EMS0218)
243 The Ivors Academy of Music Creators (EMS0197); #BrokenRecord Campaign (EMS0218)
244 MIDiA Research (EMS0073); DIUO (EMS0074); Patreon, Inc. (EMS0110)
245 "Spotify's 'tip jar' is a slap in the face for musicians. It should pay them better", The Guardian (23 April 2020)
246 Q94
247 Q95

remuneration right specifically have emerged due to the inconsistency of and contestation about the classification of music streaming within UK law. It is clear from those who have given evidence to us that music streaming poses a definitional challenge. There is no consensus as to how streaming should be defined and classified under UK law. Broadly speaking, performers argue that streaming has characteristics that justify a classification that would engage equitable remuneration. This position has been endorsed by most creator unions, campaign groups and trade associations, several (non-domestic) collecting societies and several academics. Conversely (and as expected), record labels and their trade associations have generally argued for the status quo. For the most part, the Music Publishers' Association (MPA), domestic music collecting societies and the streaming services themselves generally declined to take a stance on the debate.

62. During our inquiry, companies ranging from the major multinational record labels Universal, Sony and Warner to independents like Jazz Re:freshed, as well as trade bodies the BPI and AIM, argued that streaming should be classified as 'making available'. The major labels' case for this classification cited technical specifications for this: namely, the on-demand functionality of streaming platforms. As Tony Harlow, Chief Executive of Warner Music UK, explained in oral evidence:

> You can play what you want when you want it and skip when you don't want. That is the basis of the argument that streams are equivalent to sales: you have a choice. You can either choose a song directly or you could make your own playlist, or as you say you could listen to something like Sunday morning jazz; but when I am listening to it as you are listening to it, it will then feed me artists based on the choices I have made before. I can decide how long I want to listen to it. That is not like broadcast. I can decide when I want to listen to that. I can skip, and most subscription platforms nowadays will offer you the chance to case your recordings, or bring them down to use offline. So in all those ways it is like a sale and, as I say, it is covered by that making available right, which is kind of what the internet has set out as the basis of equivalent to sale.[248]

Universal Music, Warner Music and Sony Music expanded on this in subsequent correspondence, arguing that streaming services allow users to skip, pause, rewind or skip forward, download, repeat, cancel, download, like, retrieve artwork and credits and/or create their own playlists at their leisure.[249] Warner Music also argued that listener behaviour also informs algorithmic curation, further emphasising the user interactivity.[250] Finally, Universal Music wrote that in instances where streaming services restricted the interactivity and functionality on certain devices for ad-funded users, they typically allowed those same users to listen with unrestricted functionality on other devices.[251]

63. When asked to characterise streaming in contrast to other legal classifications, record labels emphasised that streaming appropriately could be described as a sale, thereby justifying both performer remuneration according to royalty arrangements and the relative revenue disparities between the recording and song rightsholders (see paragraphs 78–88 for the implications of this). Universal's submission argued that "the reason for

248 Q279
249 Warner Music UK (EMS0279); Sony Music UK & Ireland (EMS0280); Universal Music UK & Ireland (EMS0281)
250 Warner Music UK (EMS0279)
251 Universal Music UK & Ireland (EMS0281)

introducing the exclusive making available right at the international level in the first place was to ensure that rights holders can authorise online uses that have the same commercial effect as the distribution of copies in the off-line world".[252] Warner Music's correspondence expressed this comparison in economic terms, noting that "commercially, streaming is substitutable for, and has largely replaced, physical goods and downloads".[253] When asked whether streaming was analogous to a sale or a rental, BPI Chief Executive Geoff Taylor argued that:

> When the framers of the internet treaties granted rights for the future, they granted an exclusive 'making available' right, which is what applies to streaming, and they did that in the knowledge that an exclusive right was needed because these interactive digital transmissions were going to take over from the sales model. So we would say that, if you are going to compare to either, it is really a 'making available', but the better comparison is to a sale.[254]

This analogy was supported by the independent sector. Paul Pacifico, Chief Executive of AIM, likened a music streaming subscription to a phone contract, arguing that a phone customer buy a specific number of (or otherwise infinite) minutes, whereas a customer would have to give back a rented car or home video after a certain amount of time.[255] On broadcast, Sony emphasised the lack of user control, arguing that broadcast mediums "do not afford any interactivity to the end user because the user cannot influence the transmission of the music which can be listened to at a given time; he or she can only choose to turn off the station if the piece broadcast is not to his or her liking".[256] Warner similarly noted the lack of individual consumption, stating that "every listener hears the same track at the same time with no possibility for individual selection of or interaction with the content".[257]

64. However, the balance of evidence that we have heard suggests that the classification of streaming is not as straightforward as posited by the record labels. First, the consumption of streaming does also share characteristics with rental, insofar as consumers may receive unlimited access music from streaming services but only for as long as they pay for time-limited access (i.e. subscribed to the service).[258] This occurs even when a track has been downloaded from a streaming service for offline play, which is distinct from what occurs when music is bought and downloaded from a digital MP3 store (which is also classified as making available).[259] Nile Rodgers illustratively argued that:

> In the old days we would buy a CD and that was a sale. That was something we owned and there is a big difference. Like those bicycles that are on the street that you can put your credit card in and ride on the bicycle, but you have to return it, it is not your bicycle to keep forever.[260]

252 Universal Music UK & Ireland (EMS0281)
253 Warner Music UK (EMS0279)
254 Q417
255 Qq363–5 [Paul Pacifico]
256 Sony Music UK & Ireland (EMS0280)
257 Warner Music UK (EMS0279)
258 Qq581–6
259 An exception, however, would be Resonate Co-operative's 'stream2own' model, whereby a track is streamed by a user until payment for this consumption covers the cost of an MP3 download sale, after which it is owned.
260

65. José Luis Sevillano, Director-General of the Spanish collecting society Artistas Intérpretes o Ejecutantes, Entidad de Gestión de Derechos de Propiedad Intelectual (AIE), concurred, asserting that "who can say that Netflix is more similar to an old Blockbuster or to a shop where you can buy a film? It is a rental right."[261] Streaming services themselves also pushed back on the idea that streaming was straightforwardly similar to physical sales or downloads relative to other modes of consumption. Whilst they did not comment on the legal ramifications, Apple and Spotify did, in oral evidence, concede that streaming was "more akin to a rental" and "different to an ownership model".[262]

66. Similarly, streaming also shares similarities with more passive listening experiences such as broadcast. Autoplay, which applies where a user stops actively selecting music and the service's recommendation systems subsequently select tracks for them, is an example where music is curated for, rather than by, the user (albeit in a more personalised way).[263] Streaming services themselves can delineate whether a user has selected a track themselves or listened passively via autoplay or algorithmic or editorially-curated playlists, meaning this differentiation is technically feasible to monitor.[264] Though major record labels have argued that streaming is substitutable for, and is replacing, sales and downloads, it is equally applicable that streaming is substitutable for, and is replacing, radio. In oral evidence, Spotify confirmed that it intends to leverage its more personalised listening experience to radio listeners and would expect to reduce radio listens over time.[265] Dawn Ostroff, Spotify's Chief Content Officer and Advertising Business Officer at Spotify, has previously said that "our job is sucking listeners away from radio" and suggested the $30 billion of radio industry advertising revenue presents a business opportunity for ad-funded streaming services in particular.[266] Finally, the BBC has warned explicitly that music streaming is a critical challenge to the prominence of radio consumption of public service broadcasting, particularly due to the displacement of traditional radio by ecosystem providers such as smart speakers and in-car hardware (discussed further in paragraph 160).[267]

67. Many submissions also observed an inconsistency in how streaming is classified between the recording and publishing sides. Unlike the recording, which is classified simply as 'making available', the song is classified as both a 'mechanical' (reproduction) and a 'performance'. This means that performing rights royalties are paid to the song. Therefore, streaming is already paying a performing right within making available without changing the law. Though Roberto Neri, Chair of the MPA, declined to comment explicitly on the difference in classification between the recording and the song, he explained that publishers apply this model because "there is a performance element, because it has been performed" and "there is a mechanical element behind that, to actually get on the service" and "you can download the tracks on to your devices".[268] Mr Neri also asserted that he was satisfied with the classification of streaming under publishing, stating that the model "is fit for purpose as it is".[269] As such, performers have questioned why they are excluded from equitable remuneration (their performance royalty) when a performance royalty is

261 Q113
262 Qq645 [Elena Segal], 583–5 [Horacio Gutierrez]
263 The Ivors Academy of Music Creators (EMS0197); SCRIPT (EMS0205); Qq505–6, 512
264 Qq593–6
265 Q682 [Horacio Gutierrez]
266 Q681 [Kevin Brennan MP, Horacio Gutierrez]
267 BBC (EMS0227)
268 Qq424–5
269 Q425

paid to songwriters and composers of the same track. The lack of remuneration right for performers partially underpinned a Musicians' Union and Ivors Academy campaign, which prompted over thirty creators and organisations to submit evidence both confidentially and publicly to our inquiry arguing for equitable remuneration to apply to recording as well as publishing.[270]

68. However, perhaps the most compelling argument is not technical, but economic. The right to equitable remuneration currently applies to modes of consumption whereby the manufacturing, storage, distribution and physical breakage costs for record companies, after the song has been created and the performance recorded, are marginal relative to other modes such as physical sales or otherwise externalised to retailers or broadcasters. In renting, for instance, the costs of manufacturing and distributing each unit to the label occur once (when rental copies are delivered to the rental copy owner), whilst the subsequent act of renting incurs little to no additional costs to the label. Similarly, once music has been licensed for public performance or broadcast, there are no marginal costs to the label for each additional use. The same technologically enabled reduction and externalisation of costs occurs for the modes of consumption that exploit the making available right. For both digital downloads and music streaming, the storage, distribution and breakage costs associated with simply transferring a digital copy of the recording to the download store or streaming service are negligible or non-existent relative to storage, distribution and breakage for the purpose of physical sales. Despite the reduction in marginal costs with digital consumption, these cost savings have not been shared with the performers.

69. **The major music companies and independent record labels have consistently asserted that music streaming is straightforwardly 'making available', and therefore performers should be remunerated as though it was a sale. However, this classification does not consider the complexities of streaming that sets it apart from other modes of consumption. For example, it also has the characteristics of a rental and a broadcast, which are consumed by exploiting copyright controls that provide performers with a statutory right to equitable remuneration. Furthermore, this classification creates inconsistencies in comparison to the song rights. Finally, precluding the making available right from equitable remuneration does not capture the realities of costs associated with the distribution of digital music. *We recommend that the Government addresses these inconsistencies and incongruities by exploring ways to provide performers with a right to equitable remuneration when music is consumed by digital means.***

Legislating for equitable remuneration

70. There are several ways that equitable remuneration could be applied to streaming that we have considered, with different potential outcomes. One method would be for a legislative intervention to provide a specific classification for streaming. Many submissions from artists, academics and organisations (including several independent record labels and an Irish collecting society) called for streaming to be reclassified as communication to

270 Wendy Kirkland (EMS0037); Anna Neale (EMS0058); Joe Newman (EMS0083); Isaac Anderson (EMS0101); Fran O'Hanlon (EMS0105); Thomas Verity (EMS0152); Joshua Magill (EMS0153); Matthew Tong (EMS0155); Josienne Clarke (EMS0159); All Party Parliamentary Jazz Appreciation Group (EMS0161); Irish Music Rights Organisation CLG (EMS0162); Willis (EMS0186); Iain Archer (EMS0190); Luke Williams (EMS0191); Renee Sheehan (EMS0195); *Anonymous* (EMS0199); Dr Gavin Wayte (EMS0200); Chris Baron (EMS0222); Niall Parker (EMS0267)

the public.[271] In oral evidence, the Ivors Academy and Musicians' Union both advocated for this approach, both on the basis of streaming's substantial functional distinction from downloading and similarity to radio and for greater consistency between the song and recording sides.[272] This had strong support amongst written evidence we gathered, often citing similarities with traditional radio[273] or on the basis of consistency.[274] Conversely, evidence from Colin Young and Nile Rodgers proposed applying a more nuanced reclassification based on distinguishing between actively selected and passively consumed content, similar to the classification of streaming for the publishing side, to reflect changes in both the methods of user payment and consumption.[275] They propose that, if the distinction between active and passive listening is recognised, payment would be administered according to two distinct royalty streams. Where a user actively participates in selecting music, revenues are allocated between rightsholders as though they have purchased a CD (i.e. where the recording and publishing sides according to the 55 percent to 15 percent split, and where appropriate the creative and corporate partners are then paid according to royalty arrangements).[276] Where a user passively streams music, revenues are allocated as though they have listened to a broadcast (i.e. where both the recording and publishing sides and the creator and corporate partners on each side are remunerated equitably).[277]

71. These methods could be accomplished by adding an exception to the definition of broadcast in the Copyright, Designs and Patents Act 1988, which currently excludes internet transmission but for certain specific exceptions such as radio broadcasts that are simultaneously transmitted via the internet.[278] However, the Government would need to ensure that streaming is defined precisely. A definition that was too broad would potentially encapsulate other modes of music consumption, thereby negating the purpose of creating a specific exception for streaming only.[279] Similarly, a definition that was too technologically specific would risk not applying to certain forms of music streaming or becoming quickly outdated as streaming itself evolves.[280] Finally, this approach may mean that the law might need revisiting if and when new modes of music consumption appear in the future. This would necessitate Government to be prepared to proactively intervene if this is the case. Indeed, Tim Moss, Chief Executive of the IPO, asserted that this is

271 Wendy Kirkland (EMS0037); Anna Neale (EMS0058); Dr Gareth Bonello (EMS0069); Just East of Jazz (EMS0079); Musicians' Union (EMS0080); Joe Newman (EMS0083); Chris Tombling (EMS0093); Isaac Anderson (EMS0101); Fran O'Hanlon (EMS0105); Verity Susman (EMS0136); Thomas Verity (EMS0152); Joshua Magill (EMS0153); Matthew Tong (EMS0155); Josienne Clarke (EMS0159); All Party Parliamentary Jazz Appreciation Group (EMS0161); Irish Music Rights Organisation CLG (EMS0162); Willis (EMS0186); Iain Archer (EMS0190); Luke Williams (EMS0191); AJ Dean-Revington (EMS0192); Renee Sheehan (EMS0195); *Anonymous* (EMS0199); Dr Gavin Wayte (EMS0200); Chris Baron (EMS0222); Niall Parker (EMS0267); Dr Hayleigh Bosher (EMS0254); see also CREATe: UK Copyright and Creative Economy Centre, University of Glasgow (EMS0189)

272 Qq491 [Graham Davies], 493 [Horace Trubridge], 506 [Horace Trubridge], 510 [Graham Davies]

273 Just East of Jazz (EMS0079); Musicians' Union (EMS0080); Music Publishers' Association (EMS0179); Willis (EMS0186); AJ Dean-Revington (EMS0192)

274 Wendy Kirkland (EMS0037); Anna Neale (EMS0058); Joe Newman (EMS0083); Isaac Anderson (EMS0101); Fran O'Hanlon (EMS0105); Thomas Verity (EMS0152); Joshua Magill (EMS0153); Matthew Tong (EMS0155); Josienne Clarke (EMS0159); All Party Parliamentary Jazz Appreciation Group (EMS0161); Irish Music Rights Organisation CLG (EMS0162); Willis (EMS0186); Iain Archer (EMS0190); Luke Williams (EMS0191); Renee Sheehan (EMS0195); *Anonymous* (EMS0199); Dr Gavin Wayte (EMS0200); Chris Baron (EMS0222); Dr Hayleigh Bosher (EMS0254); Niall Parker (EMS0267)

275 CC Young & Co Limited (EMS0077); Qq12 [Colin Young], 197 [Nile Rodgers]

276 CC Young & Co Limited (EMS0077)

277 CC Young & Co Limited (EMS0077); Q197

278 Dr Hayleigh Bosher (EMS0254)

279 Dr Hayleigh Bosher (EMS0254)

280 Dr Hayleigh Bosher (EMS0254)

often necessary of Government, having previously been undertaken by Parliament and the Government led by Prime Minister Margaret Thatcher in the 1980s:

> As things change, we need to make sure the copyright regime is fit for the purpose. The UK has a great copyright regime and we need to understand how things change over time and make sure that it is fit for purpose.[281]

However, when questioned, Mr Moss and Department for DCMS officials also repeatedly affirmed that they felt that the current copyright framework was "fit for purpose"[282] given that the making available right was "designed for the streaming environment" and "was linked to changes in the internet and the way that music was being done, of which streaming would be one".[283]

72. A likely consequence of this approach would be the introduction of compulsory or collective licensing for recording rights for streaming.[284] Tom Frederikse, a former music producer and dual-qualified UK solicitor and New York attorney, explained that:

> I think the easy answer to "What is [equitable remuneration]?" is that it is collective licensing. It does create a restriction on the exclusive rights of the rights holder to negotiate for themselves. But as you have heard many times this morning, the artist-label negotiation rarely takes place on a level playing field, so this goes some way towards helping that problem. Also, as we can see in the US and elsewhere, collective licensing for all forms of streaming and broadcasts is certainly possible.[285]

Both the major and independent record labels definitively favoured direct licensing due to the greater power afforded to them by being able to walk away from negotiations.[286] Despite some concerns about the implications for self-releasing artists (see paragraphs 128–9 in Chapter 4), the negotiating power afforded by direct licensing does likely increase the total streaming revenue for the music industry.

73. Another method of practically applying equitable remuneration to streaming exists in Spain. Under the Spanish system, the performer is presumed to have transferred the exclusive right under the terms of their contract, which the producer (i.e. the record label) retains, whilst the non-waivable and non-transferrable remuneration right allows performers to be paid when music is streamed.[287] In Spain, equitable remuneration is paid by the user of the sound recording (in this instance, the streaming services) to the rightsholders via the Spanish collecting society AIE subject to an administrative fee of approximately 10 percent.[288] In total, around £800,000 per year is paid to UK performers by AIE from the equitable remuneration right.[289] The Spanish system has been in place since 2006, when Spanish law that transposed the 2001 EU Information Society Directive came into force.[290] This solution was posited in written evidence by the #PayPerformers

281 Q740
282 Qq728, 731 [Robert Specterman-Green], 734–40
283 Qq728, 730, 734, 736, 740, 755
284 Qq12, 17, 48
285 Q12
286 Qq238–9, 341
287 #PayPerformers (EMS0064); Artistas Intérpretes o Ejecutantes, Entidad de Gestión de Derechos de Propiedad Intelectual (AIE) (EMS0133)
288 Robin Firman (EMS0017); Artistas Intérpretes o Ejecutantes, Entidad de Gestión de Derechos de Propiedad Intelectual (AIE) (EMS0133)
289 Qq137–8
290 #PayPerformers (EMS0064); Artistas Intérpretes o Ejecutantes, Entidad de Gestión de Derechos de Propiedad Intelectual (AIE) (EMS0133)

campaign, Musicians' Union and songwriter Robin Firman, and has been explored in Holland, Switzerland, Hungary and elsewhere.[291]

74. The main proposal by the #BrokenRecord campaign calls for amending UK law so that the right to equitable remuneration would extend to making available. This suggestion has also been endorsed by the Musicians' Union.[292] A recent letter to the Prime Minister calling for this amendment was signed by over 230 artists from a variety of genres, including Lily Allen, Massive Attack, Gary Barlow, Kate Bush, Celeste, Paloma Faith, Noel Gallagher, Kano, Chris Martin, Sir Paul McCartney, Kate Nash, Stevie Nicks, Jimmy Page, Mike Skinner and Sting.[293] Unlike reclassifying streaming in legislation, this approach would not require the Government to proscriptively define a stream, thus future-proofing UK law to any technological deviation in streaming. It would, it should be noted, also apply to downloads. Another advantage would be that this would be relatively straightforward. Spain's model provides some illustrative precedents for policymakers as to the practicality of applying equitable remuneration to the making available right. AEPO-ARTIS, a non-profit organisation representing 36 European performers' collecting societies, argue that in practice, UK performers are forced to transfer their exclusive right to record companies, film studios and other producers for little to no remuneration anyway.[294] This is due to the overwhelming contractual power held by record labels relative to performers they negotiate with, which was argued by several legal, academic and industry professionals.[295] The Scottish Research Centre for Intellectual Property and Technology Law (SCRIPT), note that creators' weak bargaining position at the time of signing initial contracts may be caused by a lack of experience and/or information and a desire to be produced or published at any cost, and exacerbated due to the relatively few controls on copyright contracts in the UK.[296]

75. The co-existence of remuneration and exclusive rights already applies in several UK contexts, established in the Copyright, Designs and Patents Act 1988. This occurs in the case of rental, where performers have the right to equitable remuneration when a CD or DVD is rented from a library, and in the case of non-featured performers' funds, where non-featured artists are entitled to an equal share of 20 percent of gross revenues from physical and online sales of the recording after the fiftieth year following its publication.[297] This therefore addresses the critique levied against applying equitable remuneration to the making available right by one submission we received, which argued that if the "exclusive right is reduced to a simple right of remuneration, performers will no longer have any right to authorize or prohibit the use of their records".[298] This position was similarly argued by Tim Moss who argued that "the broadcaster can broadcast whatever it likes and the rightsholder cannot control what is broadcast".[299] However, practically speaking, rightsholders are only able to control whether streaming services have licensed the rights;

291 Robin Firman (EMS0017); #PayPerformers (EMS0064); Q131 [José Luis Sevillano]
292 #BrokenRecord Campaign (EMS0218); Musicians' Union (EMS0258)
293 "Paul McCartney, Kate Bush, Stevie Nicks and more sign letter calling on Boris Johnson to fix streaming economy", NME (20 April 2021)
294 AEPO-ARTIS (EMS0051)
295 Qq12 [Tom Frederikse], 169 [Nile Rodgers]; AEPO-ARTIS (EMS0051); Artistas Intérpretes o Ejecutantes, Entidad de Gestión de Derechos de Propiedad Intelectual (AIE) (EMS0133); SCRIPT (EMS0205); Dr Hayleigh Bosher (EMS0254)
296 SCRIPT (EMS0205)
297 Artistas Intérpretes o Ejecutantes, Entidad de Gestión de Derechos de Propiedad Intelectual (AIE) (EMS0133); Q510 [Graham Davies]; see also The Copyright and Related Rights Regulations 1996, section 12; Musicians' Union, Session Fund, accessed 12 May 2021
298 Horatiu Coldea (EMS0263)
299 Q738

they do not control what is played or when, particularly when algorithmic curation takes place.[300] Mr Moss himself also noted when questioned that this was the case in Spain, where the making available right was then linked to a remuneration right, and confirmed that "we want to look at this in more detail" as to " whether that works in practice and gives a better deal for those in the whole music industry".[301] A remuneration right for digital music consumption, therefore, could practically be introduced to apply to the making available right similar to the rental right where performers retain the right to equitable remuneration where their rental right has been transferred.[302] As Tom Frederikse noted:

> Regarding the application of equitable remuneration in streaming, clearly the on-demand nature of streaming is fundamentally different to that of broadcasting, but the music industry has a long tradition of crossbred music business models. […] There is certainly a lot of precedent for pulling models and principles from one type to another.[303]

76. **The right to equitable remuneration is a simple yet effective solution to the problems caused by poor remuneration from music streaming. It is a right that is already established within UK law and has been applied to streaming elsewhere in the world. A clear solution would therefore be to apply the right to equitable remuneration to the making available right in a similar way to the rental right. As such, an additive 'digital music remuneration' payment would be made to performers through their collecting societies when their music is streamed or downloaded. This digital music remuneration would address the issues of long-term sustainability for professional performers and the cannibalisation of other forms of music consumption where equitable remuneration applies, whilst also retaining the benefits of direct licensing.**

77. ***We recommend that the Government legislate so that performers enjoy the right to equitable remuneration for streaming income. Amending the Copyright, Design and Patents Act 1988 so that the making available right does not preclude the right to equitable remuneration, using the precedent set by the co-existence of the rental right and right to equitable remuneration in UK law, would be an effective solution. This would be relatively simple to enact and would appropriately reflect the diminished (and increasingly externalised) marginal costs of production and distribution associated with digital consumption. Furthermore, were the Government to do this by echoing existing UK law, this remuneration right would apply to the rightsholders (i.e. the record labels) rather than the streaming services.***

Remuneration of song rightsholders

Valuation of the song

78. As discussed in Chapter 2 (see paragraph 26), streaming services keep approximately 30 to 35 percent of gross revenues and distribute the remaining 65 to 70 percent, known as the royalty pot, to the music industry. Whilst the majority accrues to master rightsholders, who receive approximately 78.5 to 80 percent of revenues distributed to the industry, song rightsholders receive approximately 20 to 21.5 percent. Despite this, many witnesses to our

300 Q739
301 Q753
302 Copyright, Designs and Patents Act 1988, section 93B
303 Q12

inquiry have emphasised the importance of the song to music streaming. Representatives of song rightsholders contrasted the poor rate of remuneration for songwriters and composers relative to other parties, despite the fact that the song and recording rights of any track are logically symbiotic insofar as both need to be licenced for recorded music to be consumed. Roberto Neri questioned why the streaming services' share of the gross revenue pot was twice as much as that of song rightsholders, arguing that:

> Our songwriters are half of what is brought to the table. Without the songs, there are no music services. […] Without a songwriter creating a song, there is no music industry.[304]

Graham Davies, Chief Executive of the Ivors Academy of Music Creators, similarly emphasised the importance of the underlying song to the recording: "The songwriters, as we all know, invent the music. You do not have a recording, you do not have music, without the song".[305] Academic research has begun to explore this assertion further with statistical analysis, which has suggested that the quality of songwriting is as important as performing talent in determining the extent of music consumption.[306]

79. The importance of quality songwriting and composing should also be contextualised by how streaming technology has influenced music consumption. Many written submissions have recognised that streaming has provoked a decline in album sales concurrent to an increased consumption of individual tracks, referred to as a 'song economy'. The song economy of streaming services have been in part driven by changing demand-side consumption habits underpinned by functionality such as playlisting, alongside the weakening of supply-side incentives to create album-length music to capitalise on economies of scale for physical manufacturing and delivery costs.[307] This shift in consumption behaviour is not unprecedented: ERA posit that the concept of 'albums' did not exist before the invention of vinyl LPs, and moreover were limited to around 40 minutes of play until the invention of CDs.[308] Instead, creators are now incentivised by platforms to release tracks continuously to optimise streaming revenues. Daniel Ek, founder and CEO of Spotify, attracted criticism last year for saying in an interview with Music Ally that "you can't record music once every three to four years and think that's going to be enough",[309] which many musicians felt demonstrated a misunderstanding of the creative process of making music.[310]

80. However, even as the industry moves towards a song economy, songwriters and composers face new social and technological influences when creating music. Most significantly, most on-demand streaming services only register a user's stream if that user listens for thirty seconds. BMI Award-winning singer-songwriter Fiona Bevan and critically-acclaimed jazz saxophonist, MC and composer Soweto Kinch both noted that that they had observed similar trends as fellow creators are incentivised to write for a particular aesthetic based on quick beats and catchy hooks, leading to greater homogenisation around a "disposable sort of sound".[311] Guy Garvey, meanwhile, told us

304 Q430 [Roberto Neri]
305 Q501 [Graham Davies]
306 The Ivors Academy of Music Creators (EMS0197)
307 Q494 [Graham Davies]; MIDiA Research (EMS0073); BPI (EMS0208); Niall Parker (EMS0267)
308 Entertainment Retailers Association (EMS0081)
309 "Spotify CEO talks Covid-19, artist incomes and podcasting (interview)", Music Ally (30 July 2020)
310 "Musicians criticise Spotify CEO for saying it's "not enough" to release albums "every 3–4 years"", NME (2 August 2020)
311 Qq182–4

that whilst "Elbow is an album band", the band has and would shorten the introduction to a track if it optimised the track for streaming and playlisting with the aim to then lead listeners to the album.[312] The BPI has similarly asserted that number of tracks on albums and EPs have also increased, in order to maximise the number of tracks streamed (and therefore generate additional revenue) in case an artist's music is left playing.[313]

Impact on music publishing

Songwriters and composers

81. From the creator side, the current valuation of the song despite the importance of song writing and composing has resulted in financial hardship for all but a select few. In oral evidence, Fiona Bevan disclosed that one track that she co-wrote, of which her share was 48 percent, earned her approximately £100 on an album that was the fastest-selling solo artist album of the year at the time of release and reached No. 1 in the UK album charts.[314] Successful songwriters and composers also provided written testimony, both publicly and confidentially, about low rates of remuneration for successful songs. One songwriter and composer, who co-wrote an NME and Rolling Stone award-winning song that was streamed 137 million times on Spotify, received a royalty of £3,013.47. Another prominent songwriter and producer received approximately €352 in Spotify payments over three years from a one-third writing share for a song that was streamed over 14 million times. Yet another composer and artist, who has created music for some of the biggest films in the world, wrote confidentially that they make more money from a track being played on TV than out of millions of record streams. Several witnesses asserted that, as a result, many hit songwriters and composers were also working in 'gig economy' jobs for Uber or Deliveroo in lieu of adequate remuneration from streaming.[315]

82. Creators of music in genres such as classical, national and traditional music and types of popular music such as jazz are particularly disrupted by streaming, even accounting for the fact that their specialist or supposed 'niche' nature meant that it would already be difficult to achieve the numbers of streams that mainstream music would.[316] Several witnesses, for example, argued that paying rightsholders after 30 seconds of streaming a track meant that a seven-minute classical piece or a nine-minute jazz symphony would pay the same as a 31-second album interlude.[317] One classical composer noted in written evidence that Ariana Grande's 'thank u, next' could be streamed three times for every stream of Pink Floyd's nine-minute 'Comfortably Numb' from the band's concept album *The Wall*, and seven times for every stream of Simon Rattle conducting the twenty-four minute first movement of Symphony No. 2 by Gustav Mahler.[318] Effectively, this means that, particularly for services that use 'pro-rata' payment models, regular long-form, classical, jazz and traditional music listeners subsidise the consumption of consumers with popular or mainstream tastes, especially where mainstream music has optimised for streaming. Many witnesses also asserted that these issues were further compounded by

312 Q96
313 BPI (EMS0208)
314 Qq171–3 [Fiona Bevan]
315 Qq136, 170
316 Ed Hughes (EMS0033); Just East of Jazz (EMS0079); Simon Lasky (EMS0274)
317 Q36 [Tom Gray], 182 [Fiona Bevan], 184 [Soweto Kinch]; All Party Parliamentary Jazz Appreciation Group (EMS0161)
318 Matthew Whiteside (EMS0022)

algorithmic curation and playlisting that disadvantages these genres over mainstream pop and commercial music.[319] The algorithmic and playlisting problem too is multifaceted: on the one hand, these types of music may be overlooked by recommendation systems entirely, but one submission we received also highlighted that niche music is being contextualised in problematic ways when it is playlisted, arguing that "if a highly trained soloist views getting included on a Spotify 'Sleep' playlist as a career booster, something is really wrong".[320] As a result, it is estimated that the value of music such as jazz has been suppressed by about three to six percent, reducing financial incentives to its continued investment and production.[321]

83. Moreover, for songwriters and composers particularly, there are often likely to be several creators contributing to a song. This means that what revenues that are allocated to song rightsholders are often divided between more parties than on the recording side. Fiona Bevan noted that "if you look at the charts, the vast majority of music in the charts is written through collaborations and teams, songwriters and producers and artists together or producers and songwriters together".[322] It is not unusual for songwriters to share revenues for writing credits with at least three to four other songwriters, if not more;[323] 'Havana' by Camila Cabello, 'Uptown Funk' by Mark Ronson featuring Bruno Mars and 'Strip That Down' by Liam Payne featuring Quavo credit ten, twelve and fifteen writers respectively.[324] Soweto Kinch observed that "if you are independent, you would be looking to pay splits to a composer, a band arranger, songwriters, lyric writers and so on".[325] Sometimes the recording artist may also contribute to the writing of songs or otherwise negotiate a credit, writing fee or upstreaming bonus.[326] Maria Forte explained why this trend may be increasing:

> The easiest explanation is, first, sampling is quite prevalent. When you sample a song and you give up a share of the copyright, you immediately have the songwriters of that sampled song in your song. That can be a way in which suddenly you get 17 songwriters. Somebody can write a song and then the producer, who is a producer-writer, will get it and add bits to it. There can be a number of people in the room who will be given a percentage. Often, if it is a major artist, they will require a percentage of the song irrespective of whether or not they contributed to it.[327]

Indeed, the latter practices, where song writing revenues have become fair game, have become an industry norm to the extent that they are summarised by the maxim 'add/change a word, take a third'. Since we heard this evidence, a group of top songwriters, including Emily Warren, Tayla Parx, Victoria Monét, Justin Tranter and Savan Kotecha,[328] have penned an open letter to express concern about "a growing number of artists that are demanding publishing on songs they did not write" and have resolved to "not give publishing or songwriting credit to anyone who did not create or change the lyric or

319 Q183 [Fiona Bevan]; Just East of Jazz (EMS0079); Patreon, Inc. (EMS0110); All Party Parliamentary Jazz Appreciation Group (EMS0161)
320 Christian Castle (EMS0165)
321 Qq169 [Soweto Kinch], 193
322 Q173
323 Helienne Lindvall (EMS0112); Association of Independent Music (EMS0157); see also MIDiA Research (EMS0073)
324 Entertainment Retailers Association (EMS0081); see also Q501 [Graham Davies]
325 Q173
326 "Meet the songwriters who told pop stars: 'Don't steal from us'", BBC (14 April 2021)
327 Q150
328 "Hit songwriters ask pop stars to stop taking credit for songs they didn't write", BBC (31 March 2021)

melody or otherwise contribute to the composition without a reasonably equivalent/meaningful exchange for all the writers on the song".[329]

84. As with performers, the lack of financial remuneration often compounds other barriers facing songwriters and composers. However, unlike performers, who may receive advances or session fees, songwriters are often unpaid for their work unless and until their work is released commercially.[330] Fiona Bevan explained that "songwriters spend a lot of their own time, energy and money unpaid, because we do not get paid to go to work, we get paid solely on royalties, so we are taking the risk and we are developing the artists for free for the record label and not getting paid for it".[331] Furthermore, evidence we received from successful professional British songwriters revealed that not only has it become an industry norm for externalising the recording costs of music production to be passed to the performer, but also the songwriter.[332] Songwriter, producer and performer Iain Archer described in written evidence the songwriter perspective of this dynamic:

> A songwriting session will require two days of my time with an artist, then up to two extra days of my own time completing the work. I provide a studio with world class equipment and instruments, lyric, melody and chordal writing, playing, arrangement and production. I pay the energy company to power and heat/air condition the studio. I provide snacks and drinks. This is all at my own expense, despite the artist often being signed to a multinational record label. Songwriting is not only a process of creating a world class combination of lyric and music, it is also about developing the identity of an artist, working with the artist towards a piece of work that will actively promote their unique selling point—it is a highly skilled task to get this right. The labels work off the claim that they develop the artist and are deserving of the extra remuneration for undertaking this task—all the while aware that the vast majority of this work is being done for free by the songwriter. The label skill is knowing which songwriter to use, getting them involved and then using their time, resources and skillset for free.[333]

One songwriter, who has created music commercially across the world, wrote confidentially that they were typically expected to self-finance hundreds of pounds in costs for a song that has subsequently earned them less than £1,000 (as one of four writers) for over 17 million streams on Spotify alone. Helienne Lindvall, another award-winning professional songwriter and Chair of the Ivors Academy's Songwriter Committee, similarly wrote that even hundreds of thousands of streams often would not cover the expenses incurred in writing sessions, let alone uncompensated investment such as working with emerging artists to develop their sound and musical direction.[334]

85. These financial difficulties disincentivise new and upcoming songwriters and composers in particular. Several self-described emerging performer/songwriters, including one who had already earned seven million streams, wrote to us both publicly and confidentially describing their disaffection for making music commercially due to poor remuneration rates from streaming. These sentiments have also been expressed by

329 #ThePact, Read the letter here, accessed 30 April 2021
330 Anna Neale (EMS0058); Helienne Lindvall (EMS0112); Q523 [Graham Davies]
331 Q197 [Fiona Bevan]
332 Q501 [Graham Davies]
333 Iain Archer (EMS0190)
334 Helienne Lindvall (EMS0112)

established composers, songwriters and industry professionals.[335] Soweto Kinch told us that the disparity between song and recording undermines the message that there are many viable career paths in the music industry:

> When I do lectures and teach university undergrads, I say, "We need people in PR, we need people to organise, to curate shows and to arrange and compose," but if all the income is either coming to the star performer or the backing and the label, it doesn't make the idea of being a professional arranger or composer particularly viable.[336]

Moreover, the externalisation of production costs to songwriters similarly creates barriers to entry for new, young songwriters, and particularly those from low income backgrounds. Iain Archer asserts that poor remuneration, the diminishing of songwriter control and the over-saturation of the market due to the demand for new content means that young new creators are already unable to establish a career.[337] Finally, witnesses have asserted that disincentivising new talent, compounded with the risk-averse nature of many industry professionals, may harm musical experimentation. Soweto Kinch emphasised several times that the modern music ecology would not produce "a Kate Bush or a David Bowie […] or somebody like Rod Stewart" because of the prioritisation of short-term profitability.[338]

Music publishers

86. Just as songwriters and composers have faced financial hardship, music publishers have argued that the economics of music streaming do not work for them. Music publishers fulfil several important functions, should a songwriter or composer choose to work with them. As noted above, music publishers work with songwriters and composers to exploit song rights that they administer.[339] Because the song rights underpin the recording, publishers may work with songwriters and composers from the start of the creative process by investing in and/or initiating creative projects.[340] Publishers also ensure that creative works are brought to market and are made available as widely as possible, and that copyrights are protected and enforced.[341] Additionally, since the advent of digital music consumption, music publishers have begun working with collecting societies to ensure that the relevant metadata for their assets are captured and disseminated to ensure that rightsholders are remunerated accurately and efficiently.[342] Notably, evidence we received from publishers, ranging from independent companies to BMG, the world's fourth largest publisher, typically argued for greater remuneration for songwriters and composers and endorsed the creator perspective.[343] The IMPF, for instance, asserted in written evidence that "the amount of revenue that streaming services make off the back of creators' work and the gross disparity and inequality of what they pay out has become scandalous" and called on streaming services to "pay up and pay fair".[344]

335 Verity Susman (EMS0136); Julian Henry (EMS0137)
336 Q174
337 Iain Archer (EMS0190)
338 Qq166, 169, 185
339 The Ivors Academy of Music Creators (EMS0197)
340 IMPF, Independent Music Publishers International Forum (EMS0121)
341 Q132; IMPF, Independent Music Publishers International Forum (EMS0121); The Ivors Academy of Music Creators (EMS0197)
342 Qq132–4 [Maria Forte], 142 [José Luis Sevillano]; The Ivors Academy of Music Creators (EMS0197)
343 IMPF, Independent Music Publishers International Forum (EMS0121); Steve Farris (EMS0131); BMG (EMS0207); Qq111–2, 136, 150–1, 424, 427, 429–31
344 Ibid

87. Alongside their creative partners, independent publishers have therefore called for a greater share of streaming revenue. This was, however, in contrast to the major music groups, who dominate music publishing as well as recording, and the MPA (which is discussed in detail in paragraphs 130–134 in Chapter 4). Like arguments made by and about songwriters and composers, the Independent Music Publishers' Forum (IMPF) argues that the disparity between the recording and song rights mean that:

> while record labels are reporting dramatic increases in revenues from streaming services, the publishing sector (and thereby the songwriters and composers they represent) does not benefit from this growth […] at a time when the song is becoming more valuable as the business moves to a track-based model.[345]

Maria Forte, managing director of UK-based consultancy and management services company Maria Forte Music Services Ltd, argued that "the economics do not work for a publisher to have 15 percent and a record label to have 55 percent".[346] One manager of a music publisher argued that they had sometimes funded deals where the creator had received a similar or greater advance than the performer had received from the record label, despite expecting significantly less return in revenue for the song than the recording side would.[347] Similar to songwriters, for classical music there may also be more than one publisher (including separate publishers for the arrangement and the original composition), diminishing publisher revenues further.[348]

88. **Despite being an important part in the music creation and music streaming process, song rightsholders are not effectively remunerated for their work.** ***The Government should work with creators and the independent publishing sector to explore ways in which new and upcoming songwriters and composers can be supported to have sustainable careers and independent music publishers remain commercially viable. As part of this, and in the context of increasing digital music consumption through streaming, we urge them to consider how to ensure that the song is valued in parity with the recording. If necessary, the Government should bring forward legislative proposals alongside the introduction of equitable remuneration for performers proposed in paragraphs 76–7 to ensure that all creators benefit from these reforms.***

Metadata

89. When recorded music is licensed by streaming services, there are three key elements transferred by the record label: the asset (i.e. the track), the artwork and the metadata (which is data about the track itself).[349] Allison Noble of the University of Southampton notes that there are three types of metadata relevant to music streaming.[350] First, there is the descriptive metadata, which details the contents of a track, such as the title, album, track number, genre, and so on. Second, there is the ownership metadata, which details the creators, their corporate partners, the contractual terms agreed by them, and so on. Third, there is the recommendation metadata, which are tags applied and constantly refined by the service using signals such as observed and quantified user behaviour

345 IMPF, Independent Music Publishers International Forum (EMS0121)
346 Q111
347 Steve Farris (EMS0131)
348 Dr Sasha Valeri Millwood (EMS0275)
349 Q132
350 Allison Noble (EMS0115)

that enable its recommendation systems to function in the most effective manner. Both the descriptive and ownership metadata are generated by the music industry when the piece of music is created and recorded.[351] Songs and recordings are all each given unique identifiers—called an International Standard Musical Works Code (ISWC) and International Standard Recording Code (ISRC) respectively—to help authenticate them, distinguish them from other works and catalogue the relevant rightsholders.[352] These data are fundamentally important to the economics of music streaming because they account for who is remunerated, by whom, how and on what terms.[353]

90. There is widespread consensus across the music industry and amongst the music streaming services that issues with the metadata are a significant challenge to efficient and correct rightsholder remuneration. Metadata received by streaming services from the music industry creates issues at source. This may be due to the complexities of music rights and licensing. Because the recording and song rights are licensed separately and often held by different music creators and companies, many labels do not supply the relevant ISWC when licensing music to streaming services, meaning that songwriters often lose out altogether when music is streamed.[354] Often, this is by choice because of the difficulty of doing so: in oral evidence, Maria Forte asserted that in conversation with one record label, a representative said "'I don't care about composer information because it's nothing to do with me. I'm not changing my system to do that'".[355] This is exacerbated when one song has multiple recordings or covers (as there will then be one ISWC for the song but a different ISRC for each recording).[356] Finally, this often occurs with recordings in labels' back catalogues, where paper records need to be digitised or otherwise have been lost or destroyed.[357]

91. The data retrieved by the music industry also causes issues for rightsholders. Maria Forte noted that collecting societies often have to work out how to distribute revenues to publishers, songwriters and composers using only ISRCs rather than the relevant ISWCs, or otherwise receive metadata that is incomprehensible or impossible to process.[358] The sheer quantity of streams (and therefore data) further compounds this problem.[359] Finally, streaming services themselves often create barriers to providing good metadata or challenging bad metadata, such as requiring that these demands be made by the exclusive rightsholder or a representative. This prevents both third-party 'concerned citizens' from intervening and creates impracticalities where there are many performers and/or songwriters and composers, such as in the case of classical music.[360]

92. That said, streaming services themselves have called for solutions to bad metadata. The ERA acknowledged the problem, writing that:

> Whether it be the poor quality of industry metadata which creates delays, how revenues from unidentified streams are divided up, blockages in payment or the slow speed of payments and high level of commissions

351 Allison Noble (EMS0115)
352 Hipgnosis Songs Fund Limited (EMS0237)
353 Q132
354 Helienne Lindvall (EMS0112); Hipgnosis Songs Fund Limited (EMS0237); Q135
355 Q135
356 Q132
357 Q135
358 Q132
359 Q132
360 Dr Sasha Valeri Millwood (EMS0275)

> through some collection societies, there are a number of significant steps which could help the music industry make the best of the opportunities presented by streaming.[361]

YouTube's written submission similarly urged policymakers to "solve the data problems that plague music licensing; poor and missing ownership data cause unnecessary risk and expense for music services, and prevent timely, accurate royalty payments to songwriters and publishers" and "explore the development of a comprehensive musical works and sound recording ownership database that would have beneficial applications across all areas of music licensing".[362]

93. At best, mismatched, incomplete or missing metadata can result in delays to creator royalties for months or even years.[363] At worst, this can result in payments being misallocated[364] or otherwise consigned as unclaimed or non-attributable royalties to 'black boxes'.[365] Black boxes consisted of $2.5 billion in unallocated income in 2019 alone.[366] After a period of time, black boxes are then assigned pro-rata to streams that have been correctly identified, which is established in standard publishing agreements.[367] This means that those creators and companies, particularly who are most listened to, are effectively are paid twice: first for their own streams, and then for streams that cannot be allocated.[368] More recently, Phonographic Performance Limited (PPL), the performer collecting society, has changed how it allocates black box income: Peter Leathem, CEO of PPL, told us that the performers' share of reallocated revenues are now allocated to causes such as the Momentum Fund, which tries to identify and support up-and-coming artists (it should be noted, however, that labels do not contribute to the Momentum Fund).[369] For its part, the Government is (or should be) aware of these issues: in the 2019 'Music 2025' report commissioned to investigate the 'Music Data Dilemma', it was summarised that the digital value chain was being severely affected by various factors, including: "unprecedented volumes of data being generated, divergent velocities across the data flow, exponential increases in the variety of data sources, a lack of confidence in the veracity of the information and difficulties with access"; competing data protocols; diverging data standards; and "multi-layered fragmentation of metadata and a preference for proprietary walled data silos".[370]

94. **Metadata issues compound the poor terms on which creators are remunerated. Whilst there is a significant challenge, it is not insurmountable.** ***First, the Government must oblige record labels to provide metadata for the underlying song when they license a recording to streaming services. Second, it should push industry by any means necessary to establish a minimum viable data standard within the next two years to ensure that services provide data in a way that is usable and comparable across all services. Third, it should work with industry to end the practice of distributing black boxes pro rata and, instead, place obligations on collecting societies that mean that***

361 Entertainment Retailers Association (EMS0081)
362 YouTube (EMS0144)
363 Q132; Anna Neale (EMS0058); Entertainment Retailers Association (EMS0081)
364 Helienne Lindvall (EMS0112)
365 The Ivors Academy of Music Creators (EMS0197); Dr Jay Mogis (EMS0256)
366 Qa113 [José Luis Sevillano], 141
367 Qq142 [Maria Forte], 149; Helienne Lindvall (EMS0112); The Ivors Academy of Music Creators (EMS0197)
368 The Ivors Academy of Music Creators (EMS0197)
369 Qq208–9
370 Allison Noble (EMS0115); Intellectual Property Office, Music 2025: The Music Data Dilemma: issues facing the music industry in improving data management (18 June 2019)

this revenue is reinvested in the industry, such as to support creative talent and or develop solutions to revenue distribution issues. The Government should concurrently commission an exploratory audit of black boxes to achieve greater clarity as to what is genuinely impossible to allocate and what is mis- or un-allocated due to a lack of will. Finally, the Government should explore the practicalities of creating or commissioning a comprehensive musical works database and task the IPO with co-ordinating industry work on a registration portal so that rightsholders can provide accurate copyright data to necessary stakeholders easily.

Royalty chains

95. Exacerbating the issue of songwriter remuneration are the complexities in how song rights are licensed and how royalties are subsequently processed. The licensing of song rights is more complex than the licensing of the recording rights for the same track. Recording rights in the UK are licensed directly; as such, when a track is streamed and the service has subsequently ascertained how revenues should be allocated, the monies are distributed to the featured performers' labels or distributors, who then subsequently remunerate their performers according to the terms of their contracts. This process is referred to as a royalty chain. For the song rights, however, this process works differently. First, there may be more institutions between a streaming service and a songwriter or composer than between a service and a performer. This could include one or more collecting societies, publishers and sub-publishers and/or a special purpose vehicle (joint ventures between collecting societies and publishers).[371] Second, a stream exploits both the mechanical rights and performing rights of the song; by convention, a single songwriter/composer is paid down separate chains for each, with the 50 percent allocated for the mechanical (including the songwriter/composers' royalties) paid in full to the publisher first.[372] Third, a songwriter or composer's contract may specify that the creator receives a cut of the publisher's share of income paid by their collecting society, which is paid via the publisher rather than the society.[373] This means that, for UK songwriters and composers at least, there will likely be three royalty chains per stream.[374]

96. As a result of these complexities, songwriters and composers face several issues that impact when and how much they may be remunerated.[375] First, these complexities exacerbate existing issues with the metadata. ICE, a digital licensing hub co-owned by PRS for Music, Swedish collecting society STIM and German collecting society GEMA, estimates that over €100 million in royalties for Europe alone was unmatched in 2019.[376] Second, as money flows down these chains, it will be subject to deductions. These could be fees and administrative costs levied by collecting societies or shares of revenue claimed by corporate partners under contractual terms.[377] Third, there may be delays and, as creators will be at the end of these chains, they are impacted most often and by the greatest degree. Songwriters and composers, by virtue of being at the end of longer and/or more complex chains, typically must wait longer than performers to receive their royalties: whilst performers may wait months to receive royalties for streams of their work,

371 Chris Cooke, *Dissecting the Digital Dollar*, 3rd edition (Wrocław, 2020), pp.196–9
372 Chris Cooke, *Dissecting the Digital Dollar*, 3rd edition (Wrocław, 2020), pp.201–2
373 Chris Cooke, *Dissecting the Digital Dollar*, 3rd edition (Wrocław, 2020), pp.197–8
374 Chris Cooke, *Dissecting the Digital Dollar*, 3rd edition (Wrocław, 2020), p.203; Music Managers Forum and Featured Artists Coalition (EMS0128)
375 Music Managers Forum and Featured Artists Coalition (EMS0128)
376 Music Managers Forum and Featured Artists Coalition (EMS0128)
377 Chris Cooke, *Dissecting the Digital Dollar*, 3rd edition (Wrocław, 2020), p.205

songwriters may have to wait years.[378] The delays in each of the three chains for one song alone may also occur at different stages, meaning that a songwriter or composer may not be fully remunerated for the total streams for one track in any period at the same time.[379] Furthermore, royalties may be subject to ownership or data clashes and/or audits. A lack of transparency means that these often happen unbeknownst to the creator, which therefore means that creators are reliant on parties further up the chain acting on their behalf. Finally, industry norms add further layers of confusion, complexity and potentials for data disputes and misallocation of royalties.[380] This includes divergence between how song rights are licensed in different countries, regions and copyright systems or conventions in how song rights are remunerated. The Music Managers' Forum and Featured Artists' Coalition estimate that between 20 to 50 percent of songwriter royalties are either mis- or un-allocated due to incomplete, missing or inaccurate data, lost to deductions or delayed for years due to these inefficiencies.[381]

97. **The licensing and royalty chains of song rights causes considerable confusion and complexity to the system, and songwriters and composers pay the price. There is no single solution to create more efficient and timely royalty chains but the Government can work with industry to facilitate this. *The Government should require all publishers and collecting societies to publish royalty chain information to provide transparency to creators about how much money is flowing through the system and where problems are arising. This should be done periodically, and in a way that is practical and useful to other stakeholders, including other collecting societies and publishers. It should also require publishers and collecting societies to put in place efficient, practical alert systems to inform creators and representatives about data conflicts. Finally, the Government should leverage the size of the UK market to explore how global licensing deals could be made possible by policymakers around the world, including in trade deals, which would support creators both domestically and abroad.***

378 Will Page (EMS0166)
379 Chris Cooke, *Dissecting the Digital Dollar*, 3rd edition (Wrocław, 2020), p.203
380 Chris Cooke, *Dissecting the Digital Dollar*, 3rd edition (Wrocław, 2020), pp.185–6
381 Music Managers Forum and Featured Artists Coalition (EMS0128)

4 The market for music rights

98. Whilst creators and the artist businesses that support them are the most fundamental and important part of the music industry, they are often supported by various corporate and business partners that provide specialist support, resources, investment and market access to help develop that creator's career.[382] Where a creator is signed to a deal, this includes record labels, who invest in and help creators exploit recording rights, and publishers, who invest in and help exploit song rights.

99. The record and publishing industries are comprised of a diverse array of businesses that offer a range of services. The largest of these businesses are the so-called 'major' music companies, known as the 'Big Three'. These are: Universal Music Group and its publishing company Universal Music Publishing Group (UMPG); Sony Music and Sony Music Publishing (formerly Sony/ATV Music Publishing); and Warner Music Group and its publishing subsidiary Warner Chappell Music. AIM and the IMPF define a major record label and/or music publisher as "a multinational company which (together with the companies in its group) has more than five percent of the world market(s)" in recording or music publishing; otherwise, a company is considered independent.[383] Beyond the majors, there are a range of larger multinationals, such as Beggars Group and BMG, and thousands of medium and small-sized businesses (including self-releasing performers, songwriters and composers and 'single artist labels'), distinguishing themselves through an array of specialist services based on genre or geographic specificity, fair dealing and so on.[384]

100. This Chapter will first describe how the music industry has consolidated during and following the period of digital piracy over the last few decades and the current state of the market. Next, we will discuss the implications for competition and conflicts of interest in the acquisition of rights, licensing of music and revenue shares. Finally, we will evaluate concerns regarding transparency for creators and how this has been addressed in other jurisdictions.

Consolidation

Recent historic trends

101. The majors' market share has become increasingly concentrated in the last twenty years. The devastation of the music industry by digital piracy forced a sustained period of consolidation in the market;[385] notably, each of the three current major music companies have merged with or acquired the other 'Big Six' companies (PolyGram, Bertelsmann Music Group (BMG) and EMI Group Ltd) that existed in the 1990s. In 1998, PolyGram was acquired by Seagram, Universal's parent company, for $10.6 billion and folded into Universal's music and entertainment operations[386] (though Universal has recently revived the PolyGram brand for new film and TV projects).[387] In 2004, BMG, then owned by European media company Bertelsmann, merged its recording operations in a joint

382 CMU (EMS0183)
383 IMPF, Independent Music Publishers International Forum (EMS0121)
384 IMPF, Independent Music Publishers International Forum (EMS0121); Qq332–3 [Paul Pacifico]
385 BMG (EMS0207)
386 "Seagram buys PolyGram from Philips for $10.6bn", The Independent (21 May 1998)
387 "Universal revives Polydor brand to handle new movie and TV projects", Music Business Worldwide (12 February 2017)

venture with Sony, giving Universal and newly-created Sony BMG a combined 51.1% market share.[388] Sony eventually bought out Bertelsmann's stake in the joint venture in a $1.2 billion deal in 2008[389] (with the latter relaunching BMG in the same year with a small stable of European artists retained by the company).[390] From 2012, EMI was broken up and its operations were variously acquired by Universal, Sony and Warner, with Universal acquiring its recorded music operations for $1.9 billion (of which most of the regional and classical catalogues and labels were then sold to Warner for $765 million) and Sony acquiring its publishing operations for $2.2 billion.[391]

102. Even as the record industry has returned to growth with the advent of streaming, the major music companies have continued to acquire competitors. In the last five years, the majors have acquired British indie companies such as Ministry of Sound Recordings in 2016 (by Sony Music),[392] ZTT, Stiff Records and publisher Perfect Songs in 2017 (by Universal)[393] and musical theatre record label First Night Records (by Warner) in 2019.[394] Only weeks after we put an email from singer and icon Sandie Shaw to the UK heads of the major music companies that asserted that "British record companies being bought up, 'our crown jewels […] are gone' and 'there is currently no such thing as the UK record industry'",[395] Sony Music announced its intention to purchase two London-based companies (recorded music services company AWAL and performance rights collection agency Kobalt Neighbouring Rights) from Kobalt Music Group for a deal worth $430 million.[396] In response, Paul Pacifico, Chief Executive of AIM, told us that "I absolutely understand where Sandie is coming from" and that "it is a concern to artists and entrepreneurs in music alike to make sure that small, hard-fighting sector of the market is given the support it needs to continue to punch above its weight".[397] Mr Pacifico also warned that the continued acquisition of independents by majors "is not problematic in itself, so long as the market conditions enable new ones to spring up and continue to grow".[398] The IMPF similarly cautioned that "mergers and acquisitions mean fewer companies, which weakens the bargaining position of independent music publishers".[399] Since 2014, the Worldwide Independents' Network, a global network for independent music companies, has pledged in its Fair Digital Deals Declaration that:

> we oppose further consolidation in the recorded music, publishing and radio sectors since this is bad for independent music companies, their artists and fans, as it reduces market access and consumer choice

and:

> we support initiatives which confront market abuse, and which aim to adapt competition laws to promote independent market access and foster

388 "Sony and BMG merger backed by EU", BBC News (19 July 2004)
389 "Sony goes solo in music venture", BBC News (5 August 2008)
390 "Bertelsmann takes full control of BMG music rights unit", BBC News (1 March 2013)
391 "EMI sold to Vivendi and Sony in $4.1B deals", CBC (11 November 2011)
392 "Sony Music buys Ministry Of Sound Recordings", Complete Music Update (11 August 2016)
393 "Universal Music snaps up UK record labels ZTT and Stiff Records", The Guardian (19 December 2017)
394 "Warner Music Group acquires First Night Records", Music Week (15 July 2019)
395 Q331 [Damian Green MP]
396 "Sony Music buys AWAL and Kobalt Neighbouring Rights from Kobalt Music Group", Music Business Worldwide (1 February 2021)
397 Qq412
398 Qq413
399 IMPF, Independent Music Publishers International Forum (EMS0121)

> collective responses by independents to potentially anti-competitive conduct by large operators.[400]

103. This continual consolidation has begun to catch the notice of UK regulators. The CMA has recently launched an investigation into Sony's completed acquisition of AWAL and Kobalt Neighbouring Rights following an initial enforcement order served on 17 May 2021.[401] In response, Mr Pacifico said that:

> Over the last several years we have seen an incremental shift towards a music market in which a few dominant players have disproportionate influence. Each increment counts, and it is crucial to the future health of the market to ensure that all players can take part on a meritocratic basis.[402]

Helen Lewis, Executive Chair of the Independent Music Companies Association (IMPALA), a European trade association for small and medium-sized music companies, similarly told Complete Music Update that:

> We welcome the investigation into this acquisition as it leads to further concentration in the music market and is part of an ongoing wider move by Sony to acquire significant independent players in key markets. We expect the investigation to cover both the physical and also digital markets, and the impact on competitors, digital services, artists and fans, who will all lose out.[403]

State of the market

Recording and publishing

104. Whilst the record label and music publisher for a recording and its underling song and composition may be different companies, it is important to note that the majority of companies have both recording and publishing operations. The three major music groups operate both the recording and publishing industries either under their own brands or through subsidiary companies or brands; through these businesses, the majors dominate both the recording and publishing markets globally and in the UK.[404] Although the two operations are typically kept separate from one another,[405] they ultimately report in to the same corporate leadership (indeed, Sony Corp recently restructured its music operations to greater align Sony Music Entertainment and Sony/ATV under the then-new, unified Sony Music Group).[406] Moreover, this trend extends beyond the majors. A recent survey of AIM members found that 89 percent of independent record labels reported to having business interests beyond just recordings, with 81 percent declaring interests in publishing (as well as 46 percent being involved in artist management and 35 percent being creators themselves).[407]

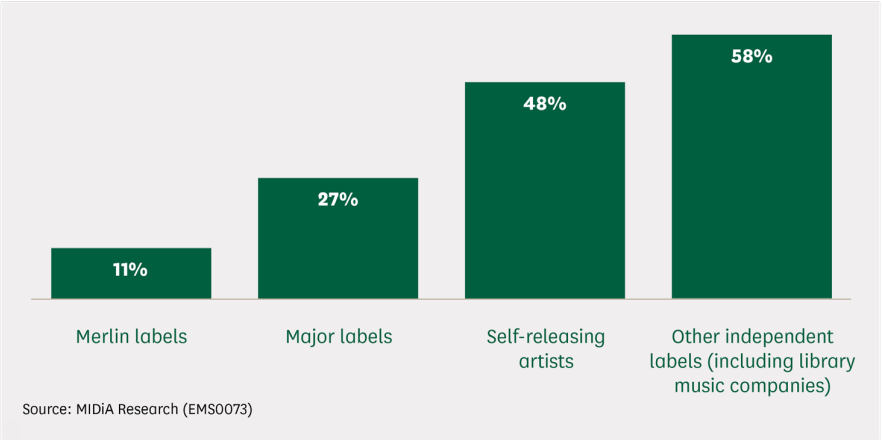
400 Association of Independent Music (EMS0157)
401 Competition and Markets Authority, Sony Music Entertainment/Kobalt Music Group merger inquiry, accessed 2 June 2021
402 "CMA to investigate Sony Music's acquisition of AWAL", Music Week (19 May 2021)
403 "UK competition regulator to investigate Sony's AWAL purchase", Complete Music Update (19 May 2021)
404 The Ivors Academy of Music Creators (EMS0197)
405 "Revamp of Sony's entertainment business could more closely align Sony Music with Sony/ATV", Complete Music Update (12 December 2016)
406 "Rob Stringer to run new Sony Music Group, housing publishing and records, from August 1", Music Business Worldwide (17 July 2019)
407 Association of Independent Music (EMS0157)

Distribution services

105. Research also suggests that streaming is driving a historic growth in the number of creators releasing music without a deal with a record label. Evidence from MIDiA Research has found that there were over 4.7 million self-releasing artists by Q3 of 2020, of which over 340,000 were from the UK.[408] Furthermore, self-releasing artists are finding increasing success, with revenues growing faster than any other sector in the global recorded music business, up 32 percent in 2019 to reach 4.1 percent of all revenues globally, and were projected to have taken in £825 million in 2020 alone.[409] Creators who want to release music to streaming services such as Spotify without a label must release a music through a distributor. Many distributors are independent, such as TuneCore, DistroKid and CD Baby. However, the growth in the number of self-releasing artists and the share of the revenues that has begun to accrue to them has prompted intervention by the major music groups. Subsequently, the majors have now each launched or otherwise acquired one or more distributors to capitalise on this market. Sony Music initially acquired a majority stake in The Orchard, a music distribution and artist and label services company reaching both physical and digital retailers, in 2012, and the remaining equity in 2015 for a reported $200 million.[410] Warner launched ADA, a full-service physical and digital distribution company, in 2012 and Level, a digital distributor, in 2018.[411] Universal currently operates three: Spinnup, a digital distributor launched in 2013;[412] Virgin Music Label & Artist Services, a distributor of independent labels (launched as a rebranding of its pre-existing Caroline Distribution service this February to capitalise on the Virgin Records brand); and Ingrooves, a distribution and artist services company, acquired in 2019.[413]

408 MIDiA Research (EMS0073)
409 MIDiA Research (EMS0073)
410 "'The Orchard is a totally unique proposition in the music business'", Music Business Worldwide (15 July 2019)
411 "Warner quietly launches free TuneCore rival for unsigned artists", Music Business Worldwide (11 May 2018)
412 "Universal-backed digital distribution and A&R platform Spinnup launches in the UK", Complete Music Update (8 July 2014)
413 "Universal launches Virgin Music Label & Artist Services around the world, rebranding Caroline and Caroline International", Music Business Worldwide (18 February 2021)

Annual Spotify streaming growth by type of label, 2019



Self-releasing artists represented 4.1% of the global recorded music market in 2019 and will generate £825 million in 2019

Shareholdings and cross-ownership

106. As well as maintaining interests in recording, publishing and distribution services, several majors maintain commercial interests in the streaming services themselves. In summer 2008, Spotify offered shares worth a combined 18 percent equity stake to the then-four major music groups (Sony, Universal, Warner and EMI) and Merlin, the collective digital rights and licensing agency for independent record labels, in exchange for an €8,804.40 investment.[414] Through this investment, Sony received 6 percent of Spotify shares, Universal received 5 percent (and later acquired an additional 2 percent when it purchased EMI's record operations), Warner received 4 percent and Merlin received 1 percent.

107. After Spotify was floated on the New York Stock Exchange in April 2018 with a market capitalisation in excess of $28.5 billion, Sony sold 50 percent of its shares for $750 million and Warner sold 75 percent of its shares for approximately $400 million.[415] Both Sony and Warner did credit artists with a portion of the profits "on the same basis as we share revenue from actual usage and digital breakage".[416] Sony confirmed to us that over $250 million was shared with artists[417] whilst written evidence asserts that Warner paid out 25 percent to artists subject to recoupment of advances.[418] As of 2021, Merlin[419] and

414 "Here's exactly how many shares the major labels and Merlin bought in Spotify and what we think those stakes are worth now", Music Business Worldwide (14 May 2018)
415 "Here's exactly how many shares the major labels and Merlin bought in Spotify and what we think those stakes are worth now", Music Business Worldwide (14 May 2018)
416 "Warner, Sony To Pay Artists Profits From Sales Of Spotify Shares", Music Row (5 February 2016)
417 Q251 [Jason Iley]
418 The Ivors Academy of Music Creators (EMS0197)
419 "Here's exactly how many shares the major labels and Merlin bought in Spotify and what we think those stakes are worth now", Music Business Worldwide (14 May 2018)

Warner have divested completely from Spotify, though the latter retains a "small stake" in Deezer, "a significant platform in other countries".[420] Since then, Spotify's market cap has almost doubled, reaching a peak of $54.55 billion in July 2020; Universal, who is yet to sell any part of its equity (but whose stake has reportedly fallen to 3.5 percent due to stock dilution), now has a stake worth over $1.6 billion.[421] It should also be noted, however, that whilst record companies were invited to invest in streaming services, publishers were not similarly invited to do so. This subsequently impacted the remuneration of song rightsholders, as whilst performers received at least some benefit from Warner and Sony's sales of shares, songwriters and composers did not.

108. However, the shareholdings of the major music groups are made complex by the various instances of cross-ownership between themselves (and their parent companies). Whilst Vivendi is the majority stakeholder in Universal Music Group, 20 percent of the company is owned by Tencent Holdings, a tech-focused multinational Chinese holding company (indeed, this stake was increased from ten percent through an option in the original acquisition after our inquiry began).[422] Alongside its Universal stake, Tencent Holdings also holds two percent equity in Warner Music.[423] However, both Warner and Sony Music own a four percent stake in Tencent Holdings' subsidiary Tencent Media Entertainment, which develops the music streaming services QQ Music, Kugou and Kuwo that currently dominate the Chinese market.[424] Recently, Tencent Music Entertainment and Spotify agreed to exchange comparable equity stakes in one another, with Tencent Holdings making secondary purchases to make up for the difference in valuations between the two companies, in order to give both companies better leverage in negotiations with the major music groups.[425] As a result, Tencent Music Entertainment now owns a 9.2 percent stake in Spotify, whilst Spotify similarly owns a 9.1 percent stake in Tencent Music Entertainment.[426]

420 Q251 [Tony Harlow]

421 "Universal's stake in Spotify is worth over $1.6 billion... but it's got no plans to sell up", Music Business Worldwide (3 August 2020); #BrokenRecord Campaign (EMS0218)

422 "Chinese tech firm increases stake in Universal Music to 20%", The Guardian (18 December 2020)

423 "Warner Music signs fresh China licensing deal with Tencent", Financial Times (22 March 2021)

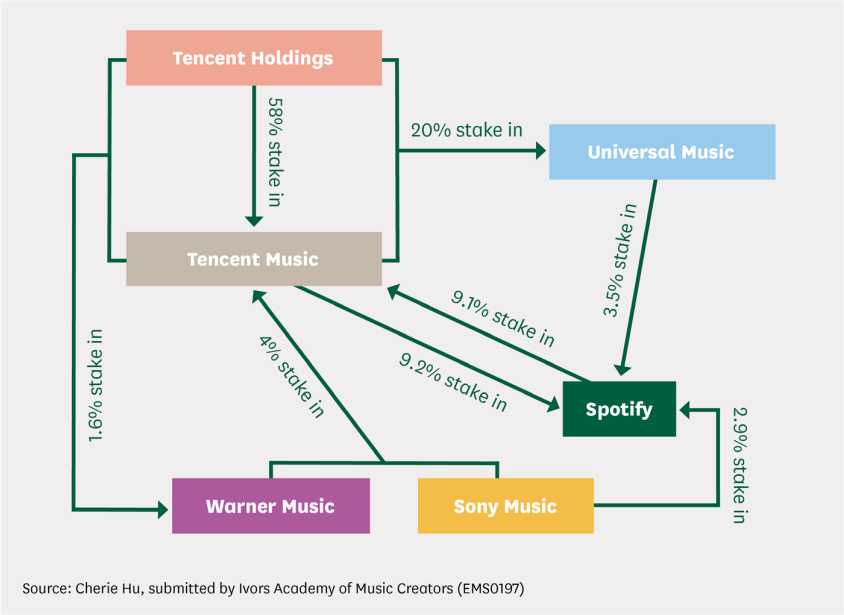
424 The Ivors Academy of Music Creators (EMS0197)

425 "Tencent and Spotify buy minority stakes in each other", Financial Times (8 December 2017)

426 "Tencent set to control 10% of Universal, also owns 9.1% of Spotify - but Daniel Ek has the final say on the firm's stake", Music Business Worldwide (10 February 2020)

Cross ownership and equity stakes between Spotify and the major music companies

Cross ownership and equity stakes between Spotify and the major music companies



Source: Cherie Hu, submitted by Ivors Academy of Music Creators (EMS0197)

Market dominance

109. There has been some speculation as to the market share of the major music companies. IFPI states that the majors' global market share in 2020 was 68 percent in recording (with Universal claiming 32 percent, Sony claiming 20 percent and Warner claiming 16 percent) and 58 percent in publishing (with Sony claiming 25 percent, Universal claiming 21 percent and Warner claiming 12 percent).[427] MIDiA Research and the IMPF broadly concur with these figures for recording and publishing, giving the majors a 67.5 percent and 55 percent market share respectively.[428] That said, MIDiA Research does argue that, for recorded music at least, these figures are overstated, as they include revenue from independent labels that have piggybacked on the majors' own digital distribution deals, but nonetheless "is the measure that they use for licensing negotiations".[429] However, there is evidence that the majors' share of the UK recording industry is more concentrated than the global market, despite being US-based companies. AIM states that the independent community accounts for 25 percent of the UK recording market, which would thereby put the majors' share at 75 percent.[430] Indeed, this is corroborated by a judgement from the Court of Appeal pertaining to a lawsuit by the UK subsidiaries of two of the majors, Warner Music UK and Sony Music Entertainment UK, against TuneIn, which stated that "The Claimants [Warner and Sony] and the groups of companies they represent, own, or

427 The Ivors Academy of Music Creators (EMS0197)
428 MIDiA Research (EMS0073); IMPF, Independent Music Publishers International Forum (EMS0121)
429 MIDiA Research (EMS0073)
430 Q332 [Paul Pacifico]; Association of Independent Music (EMS0157)

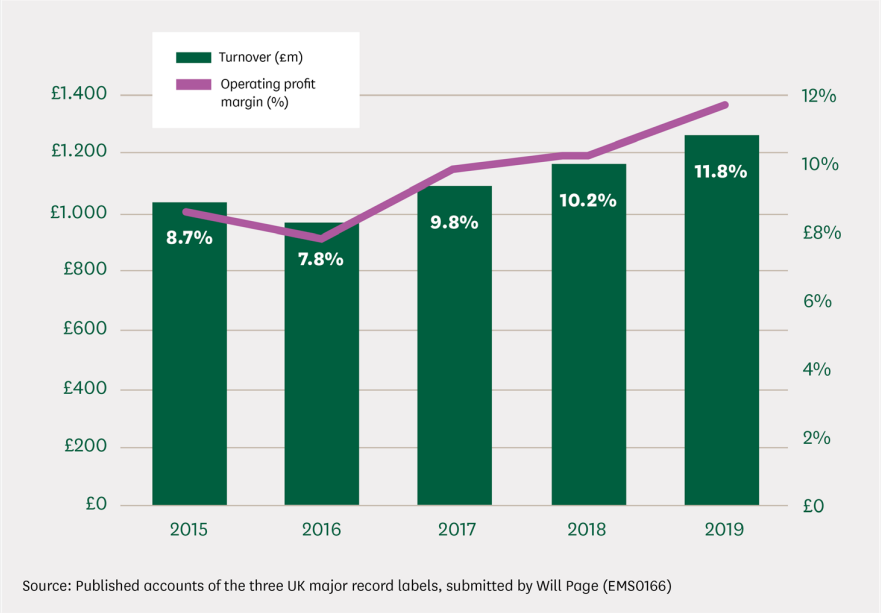
hold exclusive licences to, copyrights in sound recordings of music […] account for more than half of the market for digital sales of recorded music in the United Kingdom, and about 43 percent globally".[431]

110. The size of the major music groups due to their diverse and pervasive range of operations and holdings across the music industry has resulted in strong financial performances. Aggregate information from the accounts of the major music companies show that, in the last six years, the major music companies are performing exceptionally well in terms of profit, and are continuing to grow.[432] Between 2015 and 2019, disclosed major label turnover increased by 21 percent, but operating profit grew by an unprecedented 64 percent and their operating profit margin on turnover increased from 8.7 percent to 11.8 percent.[433] This means that, not only are the majors earning more money than in the last twenty years, they are also making more profit from these incomes. This has been corroborated by the majors themselves, as it has been reported that Sony Music CEO Rob Stringer recently told shareholders that streaming has underpinned historic profit margins for the company.[434] As such, the majors are now significantly valuable companies outright, despite the recorded sector having not yet reached pre-piracy (inflation-adjusted) levels of turnover and revenue. Warner Music, at the time of writing, currently has a market capitalisation of almost $18 billion. Music Business Worldwide estimates that Sony's music operations (albeit including its 'Visual Media and Platform' interactive entertainment division, which incorporates but does not exclusively deal in music) are valued at $38.4 billion.[435] Based on the recent ten percent option exercised by Tencent Holdings, Universal Music Group is valued at €30 billion (or over $33.6 billion) ahead of its own IPO.[436] This has translated to significant remuneration packages for the executives of these companies. Confidentially-submitted written evidence, analysing Warner Music's recent filing for its initial public offering, found that in 2019 the top 5 Warner executives received remuneration packages equal to the earnings of 2019's top 27 tracks as well as a share package worth $590 million.

431 [2021] EWCA Civ 441, [2021] WLR(D) 183
432 Helienne Lindvall (EMS0112); Iain Archer (EMS0190); Anthony Hamer-Hodges (EMS0206)
433 Will Page (EMS0166)
434 Helienne Lindvall (EMS0112)
435 "Why, in a post-Tencent/Universal world, the three major music companies are worth nearly $90 billion", Music Business Worldwide (15 August 2019)
436 "Chinese tech firm increases stake in Universal Music to 20%", The Guardian (18 December 2020); #BrokenRecord Campaign (EMS0218)

Growth of UK major label turnover and operating profit

Growth of UK major label turnover and operating profit



Source: Published accounts of the three UK major record labels, submitted by Will Page (EMS0166)

111. **There is no doubt that the major music groups currently dominate the music industry, both in terms of overall market share in recording and (to a lesser extent) in publishing, but also through vertical integration, their acquisition of competing services and the system of cross-ownership.** ***We recommend that the Government refer a case to the Competition and Markets Authority (CMA), to undertake a full market study into the economic impact of the majors' dominance (see paragraphs 129, 134 and 183 for further recommendations). The Government must also provide the CMA with the resources and staffing to undertake this case to ensure that it can dedicate the necessary resources to this work whilst not impacting the pre-existing work it is currently undertaking.***

Competition concerns

112. Due to the role of record labels, publishers and distributors (and by consequence the major music groups) in bringing music to market, these trends have implications throughout the supply chain. On the one hand, these companies essentially act as buyers for recording and song rights through their investment in creative talent. On the other hand, these same companies essentially act as sellers of licences for access to recordings to streaming services. In this way, it can be argued that the majors create both an oligopsony in the acquisition of music assets at the beginning of the supply chain and an oligopoly where assets are licensed to retailers in order for music to be brought to market.

Oligopsony in asset acquisition

113. An oligopsony occurs when a market is dominated by a small number of large buyers. This theoretically concentrates demand (and therefore market power) in the hands of the buyers, which can effectively keep prices down at the expense of the sellers. When applied to the music industry, this means that the terms under which the major music groups in particular acquire the rights to music favour the majors at the expense of the creators. As has been discussed, the major music groups are disproportionately benefitting from music streaming relative to creators. This has resulted in record high levels of income and profit growth and historic levels of profitability for the major labels[437] whilst performers' incomes average less than the median wage.[438]

114. This, naturally, begs the question as to why such contractual terms exist. Record labels have emphasised that performers are presented with more choice than before regarding the terms under which they might wish to release their music. Both Universal and Sony, in oral evidence, argued that this has created a highly competitive environment between the major labels, independent labels and distribution services.[439] Jason Iley, Chair and CEO of Sony Music UK and Ireland, argued that:

> Today, three of the most culturally important acts—Jorja Smith, AJ Tracey and Skepta—have chosen to sign to a distribution company. They want a bigger share of the revenue and that is their choice. With respect to them and their management, that is their decision. I clearly would prefer them to sign to Sony Music, but that is the opportunity of choice.[440]

These sentiments were echoed by the Minister for Digital and Culture, who cited Stormzy as another example of a successful, self-releasing artist who found initial success outside the major music companies.

115. However, in many ways, this choice is not straightforward. First, the size of the major record labels means that they can apply their financial might in terms of the size of performer advances, and subsequently leverage the risk of not recouping these considerable advances in exchange for poor royalty terms, externalised costs of production borne by creators, and greater and broader costs being subject to recoupment. Whilst we cannot supply exact figures as the evidence was supplied confidentially, the majority of artist and repertoire costs for the major music companies is spent on artist advances rather than recording and video production costs. Whilst advances are up-front incomes paid directly to creators (subject to deductions by their representatives), and thus are fairly considered recoupable, they also function as a means of asset acquisition, which means they are not solely paid for the benefit of the creator. Moreover, given that the majority of the majors' advance and royalty deals are life of copyright deals, they will therefore accrue revenue for a significant period of time. As evidence from academics at SCRIPT explains:

> The issue remains that artist contracts traditionally favour labels and publishers due to their initial risk in investing in artists, however, the unbalanced nature of such contracts has a direct implication on the revenue received by artists. Contracts agreed before, and even during, the advent of

437 Will Page (EMS0166); Anthony Hamer-Hodges (EMS0206)
438 Ben Sizer (EMS0050); The Ivors Academy of Music Creators (EMS0197); Q181 [Fiona Bevan]
439 Qq241 [David Joseph], 251 [Jason Iley, David Joseph], 252 [Jason Iley]
440 Q252

> the streaming era do not sufficiently reflect the consequences of streaming on revenue sources for artists. There is also the broader issue of uneven bargaining power in contractual relationships, applicable not just to artists in the music industry, but creative practitioners in general: artists have "a weaker bargaining position, due to their inexperience, lack of information or desire to be published or produced at any cost."[441]

116. Second, record labels act as industry gatekeepers in many ways. Each of the artists cited by Mr. Iley and Minister Dinenage all make music in the UK hip hop, grime, R&B and/or garage genres, and therefore may have faced structural barriers to record deals before achieving success as a self-releasing artist. Moreover, industry norms often result in artists who view themselves as 'major label acts' wanting to sign to major labels who gate-keep access to the press, brand deals, sponsorships and so on.[442] As Tom Frederikse noted, "the reaction to praise for one's art plays a big role" in artists accepting low royalty rates in record deals, even against legal advice.[443] Furthermore, as copyright enforcement is costly,[444] creators are incentivised to effectively 'outsource' it to music companies rather than self-release and take on these responsibilities themselves.

117. Finally, there is little opportunity for self-releasing artists to fully disintermediate from either record labels or distributors (or, in the case of label-owned distributors, both). Spotify's own attempts to develop a new tool that allowed artists to upload music directly to the platform was discontinued in July 2019;[445] several witnesses have implied that attempts at disintermediation by the tech companies was (or otherwise would be) stopped as part of negotiations with industry.[446] At any rate, the lack of disintermediation has two key benefits for the major music companies. First, it ensures that artists that self-release must go through intermediaries such as digital distributors and aggregators that are often major-owned in order to distribute music through streaming services, which itself generates revenues from up-front fees or commission. As such, even the many creators who wish to release music without a label may indirectly find themselves working with the majors through label-owned distribution businesses. Second, these businesses may become an avenue to scout and 'upstream' new talent in future, whereby self-releasing artists may be identified and signed to more comprehensive record deals. However, it should be noted that, from supplementary evidence we received, upstreaming from distributors and independent or subsidiary labels only comprises a small percentage of the majors' overall repertoire. Sony, for example, asserted that it had only upstreamed "one or two artists" from a Sony-owned distributor in the past ten years,[447] though Billboard has reported that 80 artists have been signed to Universal's front-line labels from Spinnup.[448] Whilst trends may change and these proportions may shift long-term both as rights revert to public ownership (i.e. out of label's repertoires) and major-owned distribution businesses mature, in the short term this impact should not be overstated.

118. This may be why the majors are able to retain their market position despite independent record labels often offering better contract terms, such as profit-share deals,

441 SCRIPT (EMS0205)
442 Qq157–8
443 Q53
444 Dr Nicola Searle (EMS0041)
445 "Spotify closes its direct-upload test for artists", Music Ally (1 July 2019)
446 Qq33, 128, 156–8
447 Sony Music UK & Ireland (EMS0280)
448 "Universal Music Expands Spinnup Distributor in Japan to Sign Local Talent", Billboard (24 June 2020)

debt forgiveness and rights reversion for artists. Yvette Griffith, co-CEO and Executive Director of Jazz Re:freshed, a not-for-profit label, described the terms of her label's deals:

> We made a decision fairly recently, because of our position in the ecosystem and because we are a not-for-profit and are not a commercial organisation and we receive some support from the likes of the Arts Council to recognise the work we do in the landscape for emerging talent. Parcelled up into our trying to encourage artists to fly into the wider recording world, we made a decision to become a licensing label. We do not own the copyright, and we license the copyright for a period of time. At the end of that period, we can negotiate with the artists and they may choose to let us license for another period or they may fly and take it elsewhere. It is a risk and it is a gamble, but it is the choice we have made. We are probably fairly unusual in that context, but it gives you an example of the diversity of deals that exist within that indie landscape.[449]

119. Regardless, this oligopsony has emerged because of the majors' success in asset acquisition. Many academics and creator groups argue that the majors' position fundamentally comes from owning most of the most valuable rights.[450] Professor David Hesmondhalgh argues that although record labels may well take on risk in developing artists, even one success for a label can cancel out many failures, mitigating the overall financial risk, and that larger labels are moreover able to spread this risk, as well as the actualised costs of maintaining their repertoire, staff and executive pay, across a larger catalogue of acts, creating longstanding conditions of oligopoly.[451] As such, many submissions have argued for the Government to provide pro-competition policy interventions in order for independent companies to emerge and compete and for artists to have greater rights when negotiating terms with companies themselves.

120. In terms of supporting the independent sector, the Association of Independent Music argue that new entrants to the market often lack scale, expertise and capital to compete with the major music companies. Whilst scale and expertise are accrued with time and success (and trade associations play a role in also providing the latter), both the BPI and AIM, representing record labels, have called for the Government to introduce capital incentives. As Paul Pacifico explained:

> Independent music businesses suffer twice in the capital market. They suffer because it is a high-risk business. It is also a very complicated and misunderstood business, so when you talk to investors they very rarely understand or are prepared to take risk on a business that they do not really get. Access to capital is not an evenly spread problem across the industry. Big corporations with big global parents have access to balance sheets that smaller companies simply do not, and I think a tax incentive is a way of making sure that those smaller businesses, the innovators, the entrepreneurs, those British small businesses, can make a go of it and grow their businesses without having to sell out to a major every single time.[452]

449 Q381 [Yvette Griffith]
450 Q33; Bournemouth University (EMS0048); Professor David Hesmondhalgh (EMS0143)
451 Professor David Hesmondhalgh (EMS0143)
452 Q394

The BPI's written submission firstly calls for the Government to extend and expand the Music Export Growth Scheme, which is jointly funded by the taxpayer and industry to help break performers internationally and has delivered £4 million in grants since 2014, buttressed by more dedicated resources to assist small and medium-sized labels particularly in exporting and promoting their performers in local markets alongside the Scheme itself.[453] Furthermore, both the BPI and AIM also call for a focused fiscal incentive to "pump-prime the capital market for music investment".[454] As the BPI notes, whilst the Government currently provides fiscal incentives for other creative industries such as film, animation, high-end and children's TV, gaming, theatre and orchestras, commercial music remains a notable exception.[455] When asked to comment on the reason for this, Minister Dinenage seemed open-minded to this changing, saying that: "I suppose because commercial music has always been such a great British success story, but clearly the plight of so many musicians now that live music is not an option has definitely brought a lot of things into question".[456]

121. In terms of improved rights for artists, written evidence has suggested several proposals. First, many have called for a right to recapture to be similarly implemented in the UK.[457] This right already exists in the United States, whereby creators have the right to recapture after 35 years, giving them increased leverage to renegotiate royalty rates or take their rights to other companies if the terms of their record deals are unfavourable. This would prevent the most valuable rights from accreting at labels with the most capital and create a market for recaptured rights, whereby companies would compete upwards on royalty rates and terms of recoupment. Academics at SCRIPT and the Musicians' Union also recommend that the Government should concurrently introduce contract adjustment mechanisms for creators.[458] They argue that a right to contract readjustment would better correlate remuneration to proven market success and bring the industry as a whole to parity with existing, more ethical business practices like those of BMG.[459] Similar provisions are proposed by the EU Directive on Copyright in the Digital Single Market and are already established in Germany, the Netherlands and the UK's Patents Act 1977, which applies to an employee's right to compensation when an invention has benefitted their employer.[460] This would provide successful professional creators with a statutory right to additional remuneration when their initial remuneration agreed under the contract is disproportionately low compared to subsequent revenues derived from the exploitation of their creations, which would particularly benefit performers on outdated legacy contracts.

122. **The Government must make sure that UK law is not enabling the outcome of market dominance. This means that independent labels must be supported to challenge the majors' dominance and creators must be empowered to offset the disparity in negotiating power when signing with music companies. *The Government should expand support for the Music Export Growth Scheme to allow British music companies***

453 BPI (EMS0208)
454 Association of Independent Music (EMS0157); BPI (EMS0208)
455 BPI (EMS0208)
456 Q777
457 Music Managers Forum and Featured Artists Coalition (EMS0128); CREATe: UK Copyright and Creative Economy Centre, University of Glasgow (EMS0189); SCRIPT (EMS0205); Dr Hayleigh Bosher (EMS0254); Musicians' Union (EMS0258)
458 SCRIPT (EMS0205); Musicians' Union (EMS0258)
459 Musicians' Union (EMS0258)
460 SCRIPT (EMS0205)

to compete with the multinational majors and provide the resources needed for them to survive and thrive in export markets. This scheme must be appropriately targeted at independent British companies. To prevent the further acquisition of successful rights by the majors and ensure greater competition, the Government and BPI should also place clauses in grant funding awards that a company or artists' rights cannot be acquired by the major music companies for a certain period of time. Moreover, the Government should bring forward proposals for a focused fiscal incentive for the independent music sector, similar to that which exists in TV, animation, film, theatre and gaming.

123. ***We recommend that the Government concurrently expand creator rights by introducing a right to recapture works and a right to contract adjustment where an artist's royalties are disproportionately low compared to the success of their music into the Copyright, Designs and Patents Act 1988. These rights already exist elsewhere, such as in the United States, Germany and the Netherlands, and would give creators greater leverage when negotiation contracts with music companies. We suggest that the right to recapture should occur after a period of twenty years, which is longer than the periods where many labels write off bad debt but short enough to occur within an artist's career. This would create a more dynamic market for rights and allow successful artists to go to the market to negotiate better terms for their rights. The right to contract readjustment should similarly be implemented as soon as practically possible to ensure that rights for UK creators do not fall behind rights for European creators.***

Oligopoly in music licensing

124. In contrast to an oligopsony, an oligopoly occurs when a market is dominated by a small number of large sellers. This theoretically concentrates demand (and therefore power) in the hands of the sellers, which can effectively keep prices high at the expense of the buyers in absence of alternative sources of supply. When applied to music streaming, this means that the major music groups have been able to extract favourable terms from the streaming services, which has had implications both for competition in the market for streaming services and between record labels themselves.[461]

125. One way this has manifested is the prevalence of non-exclusivity in licensing negotiations, in contrast to streaming services for film and television; instead, the music available on most mainstream services is relatively homogenous (see paragraphs 143–6 in Chapter 5). This has created the situation whereby, even as the majors are posting record profits, the streaming services themselves are yet to prove sustainably profitable.[462] Traditional costs that fall to the record labels with physical distribution, such as manufacturing, storing and transporting the product or for breakage or returns, do not apply for streaming.[463] Instead, the internet has simultaneously allowed for frictionless transfer of assets from the label to the service.[464] Concurrently, the costs incurred by digital distribution have been transferred to and are borne by the streaming service.[465] For example, there are costs for content hosting through cloud storage providers (such as Google or Amazon) and for research and development to improve the service. Spotify,

461 Competition Policy International, Music Streaming: Is It a Level Playing Field? (23 February 2021)

462 Christian Castle (EMS0165); CREATe: UK Copyright and Creative Economy Centre, University of Glasgow (EMS0189); Davo McConville (EMS0214); Qq9, 14 [Tom Gray], 22 [Tom Frederikse], 493 [Horace Trubridge]

463 Q5 [Tom Frederikse]; Musicians' Union (EMS0080); Professor David Hesmondhalgh (EMS0143); The Ivors Academy of Music Creators (EMS0197)

464 Q624 [Horacio Gutierrez]

465 Q5 [Tom Frederikse], 624–5

for instance, spent 10 percent of its revenue on research and development in 2020.[466] Horace Trubridge, General Secretary of the Musicians' Union, noted that streaming has also extended the commercial lifespan of music by eliminating these costs for labels, as previously, "when their labels decided that they were no longer able to make money for them, they stopped pressing up records and stopped marketing their music", but now "suddenly there is a market for that music again".[467] Despite the elimination, externalisation and replacement of physical costs as music distribution has become digitised, the revenue share for music retailers (i.e., record shops, download stores or streaming services) has remained consistently at 30 percent across both physical and digital retail domains, whilst the savings created by digital distribution have disproportionately benefitted record labels.

126. That is not to argue that the costs of producing music have been completely eliminated. Confidential, commercially sensitive evidence we received from two of the major record labels demonstrated that labels do provide significant, non-recoupable investment in marketing. However, representatives of both the streaming services and creators have pointed out that streaming services have also undertaken costs of marketing individual performers alongside marketing their services.[468] Paul Firth, Director of International Music at Amazon and with a background in music retail, said that "I think as a streaming service you play a much more active role in helping an artist break than we ever did as a retailer".[469] Given that, generally speaking, music licensing is non-exclusive, this investment in marketing is not solely for the benefit of the service but may also indirectly market that performer for play on other services.

127. This has likely underpinned record label success of negotiating licensing agreements for recordings to streaming services directly. Both the major and independent record labels definitively favoured direct licensing.[470] Tony Harlow, CEO of Warner Music UK, explained why record labels felt direct licensing was more effective:

> I think that the answer to that is that we believe that that direct relationship […] gives the maximum power of negotiation. It is underpinned by the ability, ultimately, to say no to any licence, and that is the maximum strength to get the best position. Wherever that position is weakened, for example by the safe harbour, which was very much the theme of the conversation before, we get less good and less effective deals. That is why we favour the direct negotiation.[471]

Paul Pacifico, CEO of AIM, representing the independent community, noted that direct licensing had not disadvantaged smaller labels due to the ability for independents to license collectively but separately from the major labels:

> In most markets across the economy, you would expect smaller operators to suffer when negotiating with large organisations. If you are a small food supplier dealing with a big supermarket, you do not expect to get great rates. In the independent music community, we have addressed some of those challenges, for example, with the formation of a licensing partnership

466 Q623 [Horacio Gutierrez]
467 Q513 [Horace Trubridge]
468 Qq490 [Graham Davies], 625 [Paul Firth]
469 Q625 [Paul Firth]
470 Qq238–9, 341
471 Q238 [Tony Harlow]

> in Merlin, an international organisation that licenses on our behalf and enables us to take advantage of the best available rates in the market.[472]

128. Despite Mr Pacifico's assertion, several contributors have expressed concerns about the indirect impact of direct licensing on independent labels and self-releasing musicians. Because these licensing negotiations are conducted in secret, smaller labels and self-releasing artists are therefore similarly subject to these terms with no leverage to extract similar terms for themselves. As one artist noted, because these parties do not negotiate directly with platforms but instead release via a distributor or piggy-back on the majors' deals, "we just get to sign up, wait for the first payments to come through, and then decide whether it was worth it or not".[473] The Incorporated Society of Musicians speculates that:

> whilst the terms of [the majors'] deals remain confidential it is believed that preferential streaming rates were secured over smaller stakeholders and independent artists due to their overwhelming market share.[474]

Academic evidence supports these speculations. Written evidence received from Dr Franco Mariuzzo and Dr Peter Ormosi at the Centre for Competition Policy observed through quantitative analysis that there exists a "difference in the distributional characteristics of major and independent record label streaming data"[475] and that "major songs feature on popular Spotify playlists at a disproportionately higher rate than independent songs".[476] They posit that this may be due to the majors' leverage over Spotify and their direct and indirect ownership over the platforms' playlists contribute to this and "resembles more a vertically integrated part of major record labels".[477] In a recent paper, Daniel Antal, Professor Amelia Fletcher and Dr Ormosi, who contributed a separate written submission, similarly argue that streaming services "tend to favor more mainstream, established and international music, in particular that which appears on major labels, and to disadvantage the more niche, the more independent, the more locally-focused".[478] They also consider this to be due to the majors' strong negotiating power preferential playlist access and unlabelled proprietary playlists and algorithmic bias.[479]

129. **Despite the general consensus that direct licensing between the record industry and streaming services is positive, there are ongoing concerns about the majors' position in negotiation, which allows them to benefit at the expense of independent labels and self-releasing artists, particularly regarding playlisting. This is further evidence that a referral to the CMA is needed (as recommended in paragraph 111).**

Conflict of interest in negotiations

130. Record labels disproportionately benefit from streaming both because of how royalty pot revenues are distributed between the song and master rights and because the making available right means that record labels pay performers under the terms of their record deals. As noted previously (see paragraphs 78–88 in Chapter 3), this has led to songwriters,

472 Q341 [Paul Pacifico]
473 Ben Sizer (EMS0050)
474 Incorporated Society of Musicians (EMS0223)
475 Mariuzzo, Franco and Ormosi, Peter L., Independent v Major Record Labels: Do They Compete on a Level-Playing Streaming Field? (13 November 2020).
476 Dr Peter Ormosi and Dr Franco Mariuzzo (EMS0076)
477 Dr Peter Ormosi and Dr Franco Mariuzzo (EMS0076)
478 Competition Policy International, Music Streaming: Is It a Level Playing Field? (23 February 2021)
479 Daniel Antal, Amelia Fletcher, and Peter Ormosi (EMS0286)

publishers and composers feeling short-changed by the split between two sides. It should be noted that song rightsholders have more than doubled their share of revenues in predominant formats over time. Roberto Neri and Rupert Skellett have explained that the song copyright received 8.5 percent of wholesale revenues for physical sales, which was negotiated up to 12 percent for downloads, and has since been negotiated up to 15 percent of retail (not wholesale) revenues for streaming.[480] However, it is clear that there are many factors that mean that this remains a contentious issue.

131. Throughout our inquiry, we have questioned witnesses about why the status quo for the revenue share between the recording and publishing has come about. It has been suggested that, while the major music groups maintain that these respective rates are due to market forces, rates were actually fixed following a negotiation with Apple. This has not been corroborated by published evidence to this inquiry but Spotify's Head of Global Affairs and Chief Legal Officer, Horacio Gutierrez, stated in no uncertain terms that "the reality is that labels demand that a majority of the revenue go to them, and then we had to clear the rights with publishers around the world".[481] In terms of the origins of the split, Fiona Bevan argued that:

> It comes from an archaic split where the labels had huge physical overheads to produce vinyl and CDs, to store them and to ship them. We have heard about breakage as well during these sessions. Of course very few people buy physical nowadays and streaming has taken over utterly. Streaming has even supplanted downloads. There is not really an excuse for these huge behemoth companies to have 55 percent when they do not have these physical overheads anymore. It is very cheap for them to distribute the music.[482]

Graham Davies, CEO of the Ivors Academy of Music Creators, similarly asserted that:

> If we go back to 2005 when digital started, it was a download economy and we used to download singles and albums. We can see why the industry adopted a model more akin to a physical sales model, but it really is not applicable to streaming. There is ambiguity over whether or not it is a sale. Clearly, a download is a sale, where you purchase something and you can listen to that as little or as much as you like for the rest of your life. That is what a download is. A stream is not a download. We would really advocate for clarifying that aspect, because it is a communication to the public, and the more the industry has propagated it, the more it has suppressed the value of the song.[483]

When asked whether it was by accident that archaic models have been transposed by record companies onto streaming, Maria Forte speculated that "I think it was not design initially, but I do think there is a certain design now" and noted that, unlike for recording, songwriters receive the majority of revenues, meaning the corporate side (including the major publishers) get less.[484] Nile Rodgers similarly posited "since streaming became the main mechanism for consuming music, record companies have unilaterally decided that a

480 Qq402 [Rupert Skellett], 427–31 [Roberto Neri]
481 Q621
482 Q170
483 Q491
484 Q112

stream is considered a sale because it maximises their profits".[485] When asked to speculate from an independent recording company side, Rupert Skellett conceded that "I suppose that might be true; the majors might be looking at where their margins are highest",[486] though he argued that as "a record company man" the rates were "at the right level".[487]

132. With music publishers and the IMPF unanimously calling for the value of the song to have parity with the value of the recording (see paragraphs 78–88 in Chapter 3), it is conspicuous that the MPA refused to give a definitive perspective on the debate, particularly given that the publishing arms of the three major music groups are counted amongst their members. The MPA's written submission specifically warned the Government not to legislate in favour of more equitable business models and creator-publisher contracts, alongside recommendations regarding piracy and safe harbour provisions for tech companies.[488] We also asked Roberto Neri several times in oral evidence whether he was satisfied with the valuation of the song.[489] Whilst Mr Neri's responses consistently advocated song rightsholders' share of revenues increasing,[490] he refused to argue specifically for parity between the song and recording, asserting that "we are all negotiating and would love it to be as high as it possibly is, and, as I say, with every negotiation we are managing to nudge it up".[491] When asked outright whether the MPA's perspective differed from the IMPF because of the major music companies' dominance of both recording and publishing, Mr Neri responded that:

> I have not encountered or seen anything, but I have heard conspiracy theories in the 20 years that I have been in the business. The major publishing companies are helping to push the rates up in the other forums that I sit in, on different boards.[492]

133. Though rebalancing the relative values of the recording and the song would have implications for record label revenue, it must be contextualised. As most independent labels and the majors also have publishing interests, losses to the recording operations would be somewhat offset by a growth in publishing revenue (whilst also benefitting songwriters and composers). By realigning remuneration incentives for industry (that is, by bringing parity to record labels, publishers, performers, and songwriters and composers) debates could then shift from 'how the revenue pie is divided' to 'maximising the size of the pie' within the music industry itself. Instead, under the current arrangement, the debates about the overall size of the industry are lost on publishers and creators because only a minority of revenues will subsequently make their way to them.

134. **As long as the major record labels also dominate the market for song rights through their publishing operations, it is hard to see whether the song will be valued fairly as a result. It is well-evidenced that redressing the disparities in relative value between the song and recording has occurred infrequently in the last few decades. Whilst the major music groups dominate music publishing, there is little incentive for their music publishing interests to redress the devaluation of the song relative to the recording. *In***

485 Q175
486 Q401
487 Q403
488 Music Publishers' Association (EMS0179)
489 Qq424–30, 434–6, 452
490 Q427
491 Q428
492 Q436

its reference to the CMA (as recommended in paragraph 111), the Government should urge the CMA to consider how the majors' position in both recording and publishing has influenced the relative value of song and recording rights.

Transparency

Non-disclosure agreements

135. We also received evidence criticising the lack of transparency from music companies and streaming services. Creators and their representatives are routinely prevented from seeing the terms of licensing agreements between record labels and streaming services both during and after negotiations despite the licensing of their works by labels to streaming services occurring on their behalf.[493] As Tom Gray argued "It is very untransparent. It is almost impossible to find out anything. All the deals between the DSPs and the labels are shrouded in NDAs".[494] These sentiments were echoed by Nadine Shah and Ed O'Brien, who argued that the lack of transparency, combined with the unequal remuneration, has eroded trust between creators and their labels.[495] Ed O'Brien noted the potential for this to discourage younger artists:

> I think it has always been tough for artists. I think it is even more murky now with the lack of transparency, the opaqueness in the system, the fact that some partners are making huge amounts of money, some of the labels and things like that. It has always been tough but it feels like it is tougher now.[496]

136. Some evidence we received did seek to provide some balance to the discussion around transparency. Independents such as Jazz Re:freshed argued that one of their unique selling point to creators was greater transparency.[497] Guy Garvey similarly noted that Elbow's label had provided a level of transparency:

> On transparency—and I am referring to notes that I have from my manager, so I am swotting up here, Nadine, I am not claiming to have this knowledge—he says that Polydor accounts every six months show clear and accurate income streams. We have a great relationship with our record label, I feel I should say that. He also says that Spotify and Apple have management apps that show real-time streaming figures and historical data that can be referenced with the label info. He is happy with that element of it.[498]

Similarly, Rupert Skellett argued that often these non-disclosure agreements were imposed from above by other parties:

> We obviously cannot show them the deals through Merlin and platforms. We are prevented by NDA clauses from showing our agreements, our licences, that we have direct to artists.[499]

493 Music Managers Forum and Featured Artists Coalition (EMS0128)
494 Q40
495 Qq75 [Nadine Shah], 84 94
496 Q84
497 Qq335, 391 [Yvette Griffith], 393
498 Q75 [Guy Garvey]
499 Q392

However, it should be noted that, even in these instances, the industry norm is that of opacity, with creators relying on good relationships with labels or company norms for transparency rather than systemic industry-wide practices and obligations.

137. The prevalence of non-disclosure agreements impacts creators in several ways. Non-disclosure agreements create barriers to auditing streaming revenues. This means that creators and their representatives often cannot independently verify whether they are being remunerated correctly.[500] Colin Young detailed the importance of transparency when undertaking audit for all sides of the music streaming ecosystem:

> I am constantly met with much resistance and there are always reasons why [the data] is not available, so I am always having to make compromises in the audit. I can never do what I would like to do. It comes with limitations. That is the problem. The audit is there to provide a remedy. It is to remedy mistakes, errors or misunderstandings and it is both ways; there could be a counterclaim, so I am not saying either side is perfect—absolutely not. What I am saying is I need the data to be standardised and consistent, and I need it granular and I need it at source. I need to be able to go back to Spotify and what they gave labels.[501]

Nile Rodgers similarly emphasised the importance of audits for artists in claiming rightful revenues:

> The only time that we really get to check to see if things are the way they should be is when we go in and audit. Every single time—and I am not making this up for dramatic or comedic purposes—I have audited a label, I have found money. Sometimes it is staggering, the amount of money. That is because of the way the system was designed right from the beginning.[502]

138. Furthermore, NDAs also prevent the disclosure of proof of sales figures which, in turn, block an artist's legal right to audit every three years, and the cost of legal recourse for this may fall to the artist.[503] As Helienne Lindvall notes, this means that creators like her "have no legal, affordable avenue to dispute such claims, and simply have to accept whatever royalty payouts these huge corporations pay me for the use of my music".[504] Second, the lack of transparency disempowers creators by creating information asymmetries when it comes to negotiating terms with music companies and making decisions about which route to market to choose.[505] The costs of this asymmetry is then likely to be borne by creators in terms of reduced royalty rates, advances and other terms through adverse selection. Finally, a lack of transparency has undermined research into inequities of creator remuneration. Most recently, the important IPO-funded study into Creators Earnings in the Streaming Age, mentioned in Chapter 1, has faced challenges due to a lack of data and engagement from the major music companies and streaming services.[506] In a recent damning letter from the Department for Business, Energy and Industrial Strategy confirmed that the streaming services and major music companies have treated

500 Musicians' Union (EMS0080); Creators' Rights Alliance (EMS0187); The Ivors Academy of Music Creators (EMS0197); SCRIPT (EMS0205); Incorporated Society of Musicians (EMS0223)
501 Q41
502 Q167
503 Hipgnosis Songs Fund Limited (EMS0237)
504 Helienne Lindvall (EMS0112)
505 SCRIPT (EMS0205)
506 The Ivors Academy of Music Creators (EMS0197)

the process with apparent contempt. Of the streaming services, only YouTube, Deezer and SoundCloud agreed to be interviewed and none provided relevant data that was not already in the public domain, whilst all major record companies and all but one major publishing company declined the researchers' requests for further discussions.[507]

139. **Artists and their representatives face a systemic lack of transparency from both music companies and the streaming services that license their works. This exacerbates the inequities of creator remuneration by creating information asymmetries and preventing them from undertaking their right to audit. Creators and their representatives have a right to know about the terms on which their works are exploited and verify the outcome of these agreements. It is also deeply concerning that this norm is challenging academic research efforts, including and in particular taxpayer-funded projects, despite efforts to positively engage music companies and streaming services in this endeavour.**

Transparency obligations

140. It is unsurprising, then, that many creators and their industry bodies have, in response, called for greater obligations regarding transparency from streaming services and music companies.[508] However, perhaps as a reflection as to the pervasiveness of industry norms, when asked what policy changes could be brought about to address this issue several witnesses expressed scepticism that such intervention was even possible. Both Tom Frederikse and Maria Forte reckoned in oral evidence that contractual obligations would prevent government from legally intervening.[509] The Department for Digital, Culture, Media and Sport and the Intellectual Property Office seemed to agree with this position, telling us that:

> The Government recognises the importance of fair remuneration and transparency in the global streaming environment, while also acknowledging that contractual agreements between rights holders and streaming platforms as well as between record labels and artists are a private matter.

The Government's submission subsequently takes a passive approach to this issue, simply urging for "ongoing dialogue between music creators, record labels, and streaming services, as they seek to resolve challenges in this area".[510]

141. It is important as parliamentarians to address any misconception and to reaffirm, therefore, for the avoidance of doubt that Parliament is sovereign within the UK. As such, it is of course within the gift of Parliament to bring about, for example, minimum statutory standards or rights that would apply irrespective of attempts by music companies or streaming services to shut artists out through non-disclosure agreements. Indeed, the European Union has done exactly this: Article 19 of the Directive on Copyright in the Digital Single Market (discussed further in paragraphs 173–8 in Chapter 5) imposes a transparency obligation on entities such as music companies, collecting societies and streaming services to provide creators with transparency reports:

507 Department for Business, Energy and Industrial Strategy (EMS0288)

508 Musicians' Union (EMS0080); Creators' Rights Alliance (EMS0187); The Ivors Academy of Music Creators (EMS0197); Incorporated Society of Musicians (EMS0223)

509 Qq43, 160

510 Department for Digital, Culture, Media and Sport and the Intellectual Property Office (EMS0078)

> Member States shall ensure that authors and performers receive on a regular basis, at least once a year, and taking into account the specificities of each sector, up to date, relevant and comprehensive information on the exploitation of their works and performances […] in particular as regards modes of exploitation, all revenues generated and remuneration due.[511]

142. **The Government has repeatedly told us that it will not implement in UK law provisions akin to those established by the Directive on Copyright in the Digital Single Market. We accept that the Directive is not a silver bullet to the music industry's problems, but it is a step in the right direction in terms of protections and rights for rightsholders.** ***The Government should ensure that creators in the UK are not worse served that they would have been had the UK remained in the European Union. As a minimum, the Government should introduce a right for performers (or their representatives) to have sight of the terms of deals where their works are licensed, on request and subject to non-disclosure. There should also be notification requirements, requiring relevant parties to provide clear information and guidance to creators about the terms and structures of every deal where creators' works are licensed, sold or otherwise made available, and the means and methods by which monies that are being distributed to them are calculated, reported and transferred.***

511 Directive (EU) 2019/790, Article 19

5 The music streaming market

Competition in the streaming market

143. On one view, the market for (most) streaming services is highly competitive. First, the services themselves are relatively homogenous. The music content on mainstream services is effectively substitutable, as major labels, independent labels and self-releasing artists make their music available as widely as possible.[512] One streaming service, Tidal, that attempted to make exclusive releases part of its unique selling point, has in fact faced legal action previously from fans over Kanye West's seventh album *The Life of Pablo*, which was released on other platforms only two months after it was released to Tidal after being marketed as a Tidal-exclusive.[513] Most features and functionality have become standardised, including offline and high-fidelity playback. Most services facilitate algorithmically and editorially-curated and individually created playlisting. As Jimmy Iovine summarised to the BBC in 2018, "the streaming services are all charging $9.99 and everyone has the same music".[514]

144. Second, companies offering premium services all charge broadly identical, stable nominal prices. Most services offer individual monthly subscriptions at £/$/€9.99, which has been the case for over a decade, and it is yet to be seen whether any service can and will deviate successfully (though Spotify recently announced it will increase the price of its Student, Duo and Family plans).[515] Third, because of price and service standardisation, as well as their increasing ubiquity, users have relatively complete information about the service's product and prices.

145. Finally, this pricing is competitive to the degree that streaming services have not been historically profitable. Services like Spotify and SoundCloud have, to date, mostly posted operating losses. In fact, Spotify's cumulative annual losses in the decade up until 2020 totalled €2.62 billion.[516] These services are sustained by venture capital, which allows them to price competitively in order to maintain market growth.[517] Other services, where streaming is one facet of a broader business, like Apple and Amazon, are described as loss leaders.[518] In 2017, Jimmy Iovine, CEO of Apple Music, told *Billboard* that "streaming services have a bad situation, there's no margins, they're not making any money".[519] Of course, absence of profitability in a growth phase does not mean that the business in maturity would not be profitable; still less that the segment of customers who are paying, given that very many are not, are not profitable.

146. However, the Covid-19 pandemic has created unique conditions for streaming services. Due to the need for social distancing and lockdown measures required to slow the spread of coronavirus and the subsequent closure of live music venues and record shops, there has been an opportunity for streaming services to grow. Spotify is an

512 BBC (EMS0227)
513 "Lawsuit against Kanye West and Tidal over 'The Life of Pablo' reportedly dismissed", NME (30 January 2019)
514 "Apple Music's Jimmy Iovine says streaming services are 'too similar'", BBC News (25 March 2018)
515 "Spotify is raising prices for lots of its plans", The Verge (26 April 2021)
516 "Loss-making Spotify will continue to put growth ahead of profit for 'next few years'", Music Business Worldwide (6 May 2020)
517 Qq31 [Tom Gray], 553–5 [Raoul Chatterjee]
518 Sonstream Ltd (EMS0154); Adam Fenn (EMS0180)
519 "Jimmy Iovine Breaks Down What's Wrong With the Music Business, Warns Against Overoptimism in Streaming: 'They're Not Making Money'", Billboard (29 November 2017)

indicative example. It alone added 30 million subscribers in 2020, including 11 million in Q4, eclipsing forecasts.[520] Since January 2020, Spotify's share price has risen faster than so-called FAANG (Facebook, Apple, Amazon, Netflix and Google) stocks. In this time, Spotify's share price has more than doubled (an increase of over 103 percent, growing at a higher rate even than Apple (almost 85 percent) and Amazon (almost 78 percent), who both offer services beyond streaming. Moreover, each of the three companies outstripped Netflix (which grew by almost 70 percent), Google (almost 52 percent) and Facebook (almost 28 percent). Even smaller companies like SoundCloud have recently broken even in several quarters, marking a significant turnaround from just 2019 when the company made a loss of 16 percent.[521] When questioned, however, representatives of the companies were hesitant to attribute success to the loss of live music. Spotify claimed that "we did well under the circumstances" but "it was not necessarily a banner year" as "throughout 2020 we saw advertising revenue suffer".[522] Paul Firth, Director of International Music at Amazon, similarly, argued that "I don't know that we can say that there was a positive impact or even a negative impact from the situation we found", and argued that data suggested a link between the growth of music streaming and growth in live music.[523]

Technology-driven challenges to the market

Algorithms and playlists

147. Streaming services remain in parity with one another on price, which has not substantially changed in over a decade.[524] We note that parity of pricing can be a feature both of perfectly competitive markets and of sticky oligopolistic ones. Unlike streaming services that offer film and TV, where exclusive licences are more common, music streaming services are not differentiated by content. Instead, services have primarily differentiated themselves through their algorithmically- and editorially-curated playlists; the Federation of Independent Musicians describes playlists as being "at the core of streaming services".[525] Dr Nicola Searle argues that Spotify "is very focused on utilising algorithms to deliver what they think the user will listen to".[526] YouTube similarly is powered by its systems that prioritise likes, comments, viewer retention and view and subscription velocity. Both Apple and Amazon cited human curation as the most distinctive element of their service offering.[527] Amazon in particular noted that it has invested significantly in human curation, employing music specialists for this purpose in every country.[528]

148. As well as providing a unique selling point for the services themselves, curation also performs an important function. Streaming provides users with access to a historically unprecedented amount of music.[529] As with other content-based tech platforms, a streaming service's systems, processes and design often play an important role in making this content accessible and manageable to end users. This gives music curators and algorithms an influential role in what music consumers actually listen to.[530]

520 "Spotify boosts subscriptions but warns of 'uncertainty' ahead", Financial Times (3 February 2021)
521 Qq553–5
522 Q685 [Horacio Gutierrez]
523 Q687
524 Q18
525 Qq148–9, 604; International Federation of Musicians (FIM) (EMS0025)
526 Dr Nicola Searle (EMS0041)
527 Qq598 [Elena Segal], 604–5 [Paul Firth]
528 Q604 [Paul Firth]
529 Dr Gary Sinclair (EMS0019); Q513
530 SCRIPT (EMS0205); All Party Parliamentary Jazz Appreciation Group (EMS0161)

Editorial curation

149. Editorial playlists are playlists created by the employees of a service or high-profile, influential, marketable third parties. Creators have told us that being featured on playlists has a significant impact on reach and revenues.[531] One creator, who has achieved 17 million streams on Spotify, wrote that "my success as an artist has been largely helped by placement on Spotify editorial playlists—this has driven my streaming numbers up and has earnt me modest recognition and in turn some career enhancing opportunities".[532] In many ways, these playlists act like traditional radio, with a human gatekeeper deciding what tracks to include.[533] Unlike streaming services, however, Ofcom's Broadcasting Code specifically precludes practices such as pay-for-play, known as 'payola': section 10.5 states that "no commercial arrangement that involves payment, or the provision of some other valuable consideration, to the broadcaster may influence the selection or rotation of music for broadcast".[534]

150. This raises questions as to the basis under which tracks are selected and whether this is open to manipulation, particularly for independent and self-releasing artists.[535] In fact, several creators did argue that editorial playlists favour those signed to major labels, claiming that 85 percent of music on Spotify is major owned and comprise 90 percent of editorial playlists, which creates a self-fulfilling cycle whereby major-owned music dominates playlists, achieves significant reach and then continues to dominate new playlists.[536] The ordering of playlists can also create hierarchies of importance to tracks, which impact the likelihood that rightsholders of featured tracks will be listened to in large quantities and therefore remunerated. Performers are often encouraged to pay for marketing workshops by the platforms themselves, or for services that pitch to playlist curators or otherwise develop relationships with curators themselves in order to achieve additional promotion through playlisting, despite little long-term impact on their fanbase or future revenues beyond streaming.[537] One performer, writing in confidence, also asserted that some playlist curators offered to promote independent performers for a fee, creating a black market for playlisting.

151. **Music curators play an important role in the discovery and consumption of digital music and are influential in how creators are remunerated. It is, therefore, unsurprising that music creators are putting more resources into catching the eye of these curators.** ***Where curators are paid or receive benefits in kind for playlisting, we recommend that they are subject to a code of practice developed by the Advertising Standards Authority, similar to social media influencers, to ensure that the decisions they make are transparent and ethical.***

531 Dr Gareth Bonello (EMS0069); Dave Mathers (EMS0092); Matthew Hickman (EMS0100); Fran O'Hanlon (EMS0105)
532 *Anonymous* (EMS0199)
533 Ben Sizer (EMS0050)
534 Ofcom, Section ten: Commercial communications on radio
535 Ali Gavan (EMS0026); Association of Independent Music (EMS0157); Music Publishers' Association (EMS0179); BPI (EMS0208); Dr Hayleigh Bosher (EMS0254)
536 Matthew Hickman (EMS0100); Fran O'Hanlon (EMS0105)
537 Ali Gavan (EMS0026); Andy Ruddy (EMS0094); Elliott Haslam (EMS0151); Kadian Foster (EMS0168); Transcripts of roundtables with emerging artists (EMS0293)

Algorithmic curation

152. Algorithmic curation, by contract, refers to the recommendation systems employed by a service for music consumption purposes (rather than, for instance, personalised advertising). This can take several forms: either in the creation of personalised playlists or to curate tracks for autoplay. Isaac Anderson, a professional musician who submitted evidence, described Spotify as "somewhat of a battleground for smaller, unsigned artists", asserting that:

> When a track goes live, the first seven days are essential in 'training the algorithm'—in other words, directing as much traffic as possible to your new release, in order for Spotify to recognise the plays and favour any chances of it being placed in an algorithmic or editorial playlist.[538]

However, several submissions warned that algorithms, as with any recommendation system, could reflect biases that may subsequently reduce new music discovery, homogenise taste and disempower self-releasing artists.[539] Many creators in written evidence were critical of the opacity of algorithmic curation, and called for greater oversight.[540] Moreover, the Spanish collecting society AIE, Incorporated Society of Musicians, Musicians' Union and others expressed concern at a recent announcement that companies would be enabled to pay for the promotion of their music for a royalty cut.[541] Finally, the BPI has noted that algorithms can disadvantage UK artists where they are based on global play counts given that territories with relatively larger populations can skew towards their own domestic artists.[542]

153. **Algorithms are fundamental to the operation of streaming services. However, many questions remain about how they influence music consumption and how much oversight exists. *The Government should commission research into the impact of streaming services' algorithms on music consumption, including where creators are forgoing royalty payments in exchange for algorithmic promotion.***

User data

154. Similarly, there are concerns that services such as Spotify, Amazon and YouTube, which offer free, ad-supported streaming to many (or most) users, may be incentivised to maximise data collection and commodification, both for advertising purposes but also

538 Isaac Anderson (EMS0101)

539 Dr Nicola Searle (EMS0041); Ben Sizer (EMS0050); DIUO (EMS0074); Chris Whitten (EMS0096); Cognizant (EMS0134); Julian Henry (EMS0137); Generator North East Ltd (EMS0171); Adam Fenn (EMS0180); Iain Archer (EMS0190); AJ Dean-Revington (EMS0192); BPI (EMS0208); Oliver Julian (EMS0219); Neil Adams, Sarah Ramage, Caleb Evans and Paul Deacon (EMS0225)

540 Iain Cameron (EMS0015); Ali Gavan (EMS0026); Angela Reith (EMS0029); Wendy Kirkland (EMS0037); Anna Neale (EMS0058); Dr Gareth Bonello (EMS0069); Just East of Jazz (EMS0079); Joe Newman (EMS0083); Matthew Hickman (EMS0100); Fran O'Hanlon (EMS0105); Helienne Lindvall (EMS0112); IMPF, Independent Music Publishers International Forum (EMS0121); Joshua Magill (EMS0153); Matthew Tong (EMS0155); Association of Independent Music (EMS0157); Josienne Clarke (EMS0159); Natalia Wierzbicka (EMS0160); Irish Music Rights Organisation CLG (EMS0162); Council of Music Makers, Featured Artists Coalition (FAC), Ivors Academy, Music Managers' Forum (MMF), Music Producers' Guild (MPG), and Musicians' Union (MU) (EMS0172); Music Publishers' Association (EMS0179); Iain Archer (EMS0190); Luke Williams (EMS0191); Renee Sheehan (EMS0195); *Anonymous* (EMS0199); Isaac Neilson (EMS0201); BMG (EMS0207); BPI (EMS0208); Tim Richards (EMS0221)

541 Artistas Intérpretes o Ejecutantes, Entidad de Gestión de Derechos de Propiedad Intelectual (AIE) (EMS0133); Christian Castle (EMS0165); Incorporated Society of Musicians (EMS0223); Musicians' Union (EMS0258)

542 BPI (EMS0208)

as leverage in licensing negotiations. This would have implications for both user privacy, which could be undermined by more pervasive data gathering systems, and for competition, whereby services could gain a competitive advantage from aggregating large quantities of data. Indeed, we know this is already occurring to some degree, as one previous licensing arrangement between Universal and Spotify gave the former "'unprecedented access to data, creating the foundation for new tools for artists and labels to expand, engage and build deeper connections with their fans'".[543] Despite this, Spotify asserted in oral evidence that access to data was provided to rightsholders equally through its Spotify for Artists tool to alleviate competition concerns amongst the music industry.[544] Nonetheless, it must be ensured that the financial interests of the music industry and streaming services do not similarly disincentivise user privacy and data ethics for digital music consumers. As the streaming market matures, the use of consumer data in advertising and licensing deals will require effective co-operation by the DMU and Information Commissioner's Office to ensure a high standard of consumer protections.

Vertical integration

155. Given the competitiveness of the music streaming market, companies have increasingly sought to integrate vertically with other services or otherwise utilise other offerings to achieve a competitive advantage. Jimmy Iovine has argued this, positing that: "Amazon sells Prime; Apple sells telephones and iPads; Spotify, they're going to have to figure out a way to get that audience to buy something else".[545] In many ways, this competition has promoted innovation and positive differentiation of services. This year, for example, Spotify launched its first hardware device, an in-car entertainment device called the Car Thing, in the United States.[546] Other services have launched recently, advertising their services based on more ethical payment systems for rightsholders.[547] In oral evidence to our inquiry, Apple spoke several times about how its business model has reflected its pro-privacy values that differentiate its products to those of other tech companies.[548]

156. There is a risk, however, that the current unprofitability of music streaming may lead companies to adopt increasingly anti-competitive practices in order to become (more) profitable. This may lead to a market 'tipping', whereby once a product or service reaches a critical mass of users, network effects create a snowball effect whereby a market rapidly tends towards monopoly equilibrium. Vertically integrated tech companies, for example, with more mature hardware and smart technology divisions could theoretically gain an advantage by creating incentives such as free trials or frictions for competitors such as denying access to third-party services or shipping with defaults that are difficult for customers to change, particularly if one piece of hardware were to dominate the market. The BBC was warned that "vertical integration can tilt the market towards the eco-system's own services ahead of third parties whether they are alternative streaming services or other forms of audio such as Radio broadcasters".[549]

543 Q249 [Clive Efford MP]
544 Q694 [Horacio Gutierrez]
545 "Jimmy Iovine Breaks Down What's Wrong With the Music Business, Warns Against Overoptimism in Streaming: 'They're Not Making Money'", Billboard (29 November 2017)
546 "Spotify launches its in-car entertainment system 'Car Thing' in US", TechCrunch (13 April 2021)
547 Sonstream Ltd (EMS0154); Resonate Co-operative (Resonate (Beyond Streaming) Ltd) (EMS0169)
548 Q642, 695 [Elena Segal]
549 BBC (EMS0227)

157. When asked, both Amazon and Apple did detail various pro-competition business practices to ensure compliance with competition law, such as business structure (such as compartmentalisation between streaming and other divisions of the business like those working on hardware or voice assistants) and fair access to third-party services (both at set-up and thereafter).[550] Some jurisdictions are already responding to allegations of anticompetitive practice. On 30 April 2021, the European Commission issued antitrust charges against Apple following an initial complaint from Spotify. Specifically, it found that Apple broke competition law with its app store policies that both require app developers to use Apple's own in-app purchase system (which levies a 30 percent commission fee) and forbid developers from advertising other extra-app purchasing options, which allegedly have resulted in higher prices for consumers.[551] Spotify's complaints against Apple have gone further, however. In September 2020, Spotify described Apple's Apple One subscription bundle, which also includes Apple TV Plus, Arcade, iCloud storage and other Apple products, as "anti-competitive behaviour, which if left unchecked, will cause irreparable harm to the developer community and threaten our collective freedoms to listen, learn, create, and connect" (despite the fact that Spotify itself has previously been bundled with Hulu, AT&T and Samsung[552] and Amazon bundles its streaming service with Prime).[553]

158. It is necessary, therefore, that the UK regulatory environment is equipped to respond to these multi-faceted challenges. The CMA's Digital Markets Taskforce issued advice to government in December 2020 on the design and implementation of a new regime for digital markets and the powers that its new DMU will need.[554] The Government has committed to consulting on proposals this year and to legislating in order to provide the DMU with a statutory footing when parliamentary time allows.[555] In the meantime, the CMA has announced that the DMU will work with existing CMA enforcement teams to address anti-competitive practices by digital firms within the CMA's current remit.[556]

159. **The market for streaming services itself is fiercely competitive. However, there is the potential that companies may leverage other aspects of their business or elsewise use vertical integrations to gain a competitive advantage; indeed, some jurisdictions have considered that this is already happening in some areas. It is important that the UK has a regulatory regime to respond to these challenges. We are encouraged that the CMA has already launched its Digital Markets Unit, which is undertaking important work in this area within the scope of the CMA's current powers, but to ensure proper compliance the DMU needs to be put on a statutory basis as soon as possible. *The Government should launch its consultation on the new pro-competition regime for digital markets by the time it has responded to this Report and commit to a reasonable timeframe (to which it can be held accountable) for when it reasonably expects legislation to be brought forward thereafter.***

550 Q606 [Paul Firth, Elena Segal]
551 "EU accuses Apple of App Store antitrust violations after Spotify complaint", The Verge (30 April 2021)
552 "Apple says its new Apple One services bundle isn't unfair to Spotify", The Verge (15 September 2020)
553 Qq623, 626–8
554 "CMA advises government on new regulatory regime for tech giants", Competition and Markets Authority, accessed 23 May 2021
555 Competition and Markets Authority, Digital Markets Unit, accessed 23 May 2021
556 "New watchdog to boost online competition launches", Department for Digital, Culture, Media and Sport and Competition and Markets Authority, accessed 23 May 2021

Prominence

160. Alongside proposed and existing regulatory regimes into competition in digital markets and data privacy, the UK also maintains a regime to support our public service broadcasting (PSB) ecosystem. In our recent Report into the 'Future of public service broadcasting', we discussed several challenges to PSB content and the current prominence regime for audio-visual content that similarly apply to music streaming and radio. Music streaming poses several related challenges to the prominence regime as subscription video-on-demand (SVoD) services. First, music streaming poses a market share challenge to PSB content,[557] which similarly provide music and speech but also, distinctly, critically important content such as news.[558] Second, smart speakers create similar problems to hardware such as smart TVs, smart sticks and set-top boxes, whereby PSB apps are not prominent, easily accessible or even installed by default.[559] Vertically integrated streaming services also intermediate the relationship between PSB content and listeners through their hardware. The BBC's submission argues that, for example, if a listener requests a jazz radio station, the default would be a streamed playlist from YouTube music rather than a live radio broadcast.[560] However, there are some differences in the challenges posed by music streaming. Music streaming services do not carry PSB content (which poses a particular challenge for television).[561] Irrespectively, though the BBC has responded to competition for listeners provoked by music streaming with its own BBC Sounds app, it remains disadvantaged by simultaneous progression from radio to connected devices, smart speakers and in-car devices. The Department for DCMS is currently undertaking a strategic review of public service broadcasting. ***The Government must ensure that the challenges posed by music streaming to the UK's prominence regime are duly considered.***

Safe harbour

Safe harbour provisions in law

161. Throughout our inquiry, voices from across the music industry railed against safe harbour provisions that were transposed into UK law from the European Union's E-Commerce Directive. Safe harbour aimed to clarify the pecuniary and financial liabilities of 'information service providers' in instances of transmission (as a mere conduit), caching and, most pertinently, hosting infringing information where the provider "has neither knowledge of nor control over the information which is transmitted or stored".[562] The Directive was transposed into UK law by the Electronic Commerce (EC Directive) Regulations 2002. To benefit from this limitation of liability in regards to content hosting, it was specified that services must not "have actual knowledge of unlawful activity or information" and were required to "[act] expeditiously to remove or disable access" to the information concerned.[563] The Directive also specifically prevented member-states from imposing a general monitoring obligation (though did allow for obligations to

557 Digital, Culture, Media and Sport Committee, Sixth Report of the Session 2019–21, The future of public service broadcasting, HC 156, para 89
558 BBC (EMS0227)
559 Digital, Culture, Media and Sport Committee, Sixth Report of the Session 2019–21, The future of public service broadcasting, HC 156, para 74
560 BBC (EMS0227)
561 Digital, Culture, Media and Sport Committee, Sixth Report of the Session 2019–21, The future of public service broadcasting, HC 156, paras 81–8
562 Directive 2000/31/EC
563 The Electronic Commerce (EC Directive) Regulations 2002, regulation 19

monitor content in specific cases).[564] Subsequent guidance from the Court of Justice of the European Union, in a preliminary ruling on questions referred by the High Court of Justice for England and Wales in the case of *L'Oréal vs eBay*, further clarified that a provider loses its hosting defence in instances where it "plays an active role" or "provides assistance intended to optimise or promote" illegal content or activity or elsewise should "have been aware of facts or circumstances on the basis of which a diligent economic operator should have identified the illegality in question".[565]

162. Safe harbour thus applies directly to tech companies whose services host user-generated content (UGC), such as YouTube, SoundCloud, TikTok, Facebook and Twitch. Evidence to our inquiry from the tech sector argued that safe harbour has provided policy certainty that underpins investment and therefore has facilitated user-driven creativity online.[566] YouTube argued that, whilst safe harbour provides a strong foundation, "we obviously go far above and beyond the safe harbour framework with our investments" such as music licensing.[567]

163. Tom Frederikse noted that social media services in particular, such as YouTube, do not function as straightforward music streaming services, given that they have "a huge amount of user-generated content, […] video and other elements that are not present in the straightforward music services".[568] Nonetheless, YouTube dominates the music streaming landscape. Sales data from RIAA shows that YouTube had a 51 percent[569] market share in 2019[570] whilst Tom Gray estimated that "eight of the most streamed videos on YouTube ever are music videos".[571] Worldwide, YouTube's user base far exceeds that of other services: Apple Music has around 60 million active monthly subscribers; Spotify reports 320 million active users; YouTube, by contrast, boasts an estimated two billion active monthly users (albeit using the platform for more than music streaming).[572] In the UK specifically, 45 percent of consumers aged 16 and above use YouTube weekly for music, 10 points ahead of the next most used service Spotify; on a more granular level, while British teenagers are more likely to use Spotify weekly, all other demographics strongly skew towards YouTube.[573] These trends may shift even further in YouTube's favour: in the US, YouTube has a market penetration of 70 percent for 12 to 34 year olds.[574] YouTube also plays an important role in music discovery: amongst UK consumers, it is second only to radio as the means for discovering new music.[575] YouTube itself argues that the opportunities for discovery and revenue it provides has meant that over 610 UK YouTube channels have attracted over one million subscribers and that 84 percent of views on UK content come internationally, making it "a chief exporter of British talent".[576]

564 Directive 2000/31/EC
565 Judgment of 12 Jul 2011, C-324/09 (L'Oréal), ECLI:EU:C:2011:474
566 Qq530, 533–4 [Katherine Oyama]
567 Q534 [Katherine Oyama]
568 Q38
569 Less conservative estimates, submitted by Sonstream Ltd, put YouTube's market share at a staggering 78 percent.
570 Q44; Sonstream Ltd (EMS0154); Kirstian Taylor (EMS0198); Isaac Neilson (EMS0201)
571 Q44
572 PRS for Music (EMS0158)
573 MIDiA Research (EMS0073)
574 Musicians' Union (EMS0080)
575 MIDiA Research (EMS0073)
576 YouTube (EMS0144)

Economic implications of safe harbour

Impact for UGC-hosting services

164. Tom Gray describes safe harbour as "a get-out-of-jail-free card for Google from copyright and competition law".[577] Fundamentally, safe harbour exempts streaming services that host UGC from being criminally and financially liable for content that infringes copyright in good faith as long as they act expeditiously against this content where they gain "actual knowledge" of infringing content, such as when notified.[578] Safe harbour thereby protects social media companies' free-to-use, ad-funded business model from proscriptive statutory and regulatory moderation requirements, which in practice has allowed users to continue to upload and consume music for free. Elena Segal, Global Senior Director of Music Publishing at Apple Inc., argued that safe harbour provisions create an "unlevel playing field" in favour of YouTube:

> The fact that they do not necessarily have licences for all of the music that they use and that they do not need to. Even where they do have licences the amount they pay, because of the way their business model is set up and the way the tariffs work, is less.[579]

As such, whereas other streaming services negotiate to license music and subsequently make that available to consumers, YouTube effectively negotiates licences for music that users are already providing through the service.[580] This gives YouTube an ongoing competitive advantage when licensing music relative to other competitors that do not host UGC.[581]

165. The economic impacts of safe harbour provisions are twofold. First, it has a direct impact on the music industry via its own rates. Typically, YouTube pays less on average on a per-stream basis than other services, which has been observed by many academics and researchers, industry trade bodies and creators and music companies themselves.[582] Second, according to MIDiA Research, despite YouTube's dominance of streaming both in terms of use and users and "strong progress driving subscriptions in recent years", it remains overwhelmingly ad-funded whilst services owned and operated by YouTube's parent Alphabet rank fourth in terms of the number of subscribers.[583] The confluence of these issues creates what is referred to as the value gap, whereby UGC-hosting services continue to lag behind market norms established by other services in terms of music industry remuneration.[584]

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577 Q38

578 Copyright, Designs and Patents Act 1988, section 97A

579 Qq616–7

580 MIDiA Research (EMS0073); Q617 [Elena Segal]

581 SCRIPT (EMS0205)

582 Pete Woodroffe (EMS0018); Ali Gavan (EMS0026); Beggars Group Limited (EMS0047); Anna Neale (EMS0058); MIDiA Research (EMS0073); Musicians' Union (EMS0080); Tru Thoughts (EMS0091); Adam Fenn (EMS0180); Iain Archer (EMS0190); The Ivors Academy of Music Creators (EMS0197); Kirstian Taylor (EMS0198); SCRIPT (EMS0205); BPI (EMS0208); Incorporated Society of Musicians (EMS0223)

583 MIDiA Research (EMS0073)

584 Musicians' Union (EMS0080); IMPF, Independent Music Publishers International Forum (EMS0121); Artistas Intérpretes o Ejecutantes, Entidad de Gestión de Derechos de Propiedad Intelectual (AIE) (EMS0133); Association of Independent Music (EMS0157); PRS for Music (EMS0158); All Party Parliamentary Jazz Appreciation Group (EMS0161); The Ivors Academy of Music Creators (EMS0197); Qq118, 217, 221, 499–500

166. Despite these legal protections, UGC-hosting services use several tools to address piracy on its site. SoundCloud, for instance, operate a content identification system that scans content when it is uploaded against matches in a reference database and block any matches.[585] YouTube similarly operates a content-matching system with several aspects:

- Public webforms that, in this instance, allow users to make copyright claims to YouTube;
- The Copyright Match Tool, which matches content uploaded to YouTube by a user to subsequent any uploads, that allows rightsholders to request removal, contact the uploader or leave the video up; and
- Content ID, which underpins the effectiveness of other tools by creating a 'digital fingerprint' for copyrighted works based on the video's metadata.[586]

167. YouTube argues that over half of all revenue generated by the music industry from its service comes from copyright claims made through Content ID.[587] We note that there is recognition amongst stakeholders (including several who have submitted confidential evidence) that YouTube's Content ID system is effective and efficiently scalable and has set the benchmark for automated copyright enforcement tools.[588] However, we have, in the context of our scrutiny of the online harms framework, found elsewhere that automated systems such as YouTube and SoundCloud's may be prone to inaccuracies (i.e. false positives and/or negatives when searching for or evaluating infringing content) due to technical limitations, developer biases and so on.[589] Our Report into 'Misinformation in the COVID-19 Infodemic' concluded that no technological solution is (yet) a complete substitute for human reporting and review.[590] Furthermore, we have observed that tech services often do not create frictions or keep money in escrow in favour of expediting payments, meaning that copyright infringers can successfully monetise infringing content before it is identified by the system.[591] Finally, the current systems place the onus on rightsholders to provide data and documentation to YouTube before it is protected, which typically is at the expense of emerging or independent performers.[592] For its part, YouTube has called on policymakers to explore the possibility of creating a comprehensive musical works and sound recording database, which may have applications here.[593]

168. YouTube has, in response, emphasised its overall contribution to the music industry. When the issue of lower 'per-stream' pay-outs was posed to YouTube's Director of Government Affairs and Public Policy, Katherine Oyama, she rejected the premise that YouTube pays less per stream than other services, claiming that "the research that I have seen that does analyse that has had us absolutely on par with them".[594] Ms Oyama further responded that "if we make any money the majority of the revenue is going out

585 Q540 [Raoul Chatterjee]
586 YouTube (EMS0144); Q461 [Katherine Oyama]
587 YouTube (EMS0144)
588 Isaac Neilson (EMS0201); SCRIPT (EMS0205)
589 Digital, Culture, Media and Sport Committee, Second Report of the Session 2019–21, Misinformation in the COVID-19 Infodemic, HC 234
590 Digital, Culture, Media and Sport Committee, Second Report of the Session 2019–21, Misinformation in the COVID-19 Infodemic, HC 234, para 39
591 Oral evidence taken before the Digital, Culture, Media and Sport Sub-committee on Online Harms and Disinformation on 17 December 2020, HC (2019–21) 1049, Qq83–9
592 Sonstream Ltd (EMS0154)
593 YouTube (EMS0144)
594 Qq566–77 [Katherine Oyama]

to the music industry" and that industry rightsholders, including artists and major and independent labels, have benefitted as a result.[595] Addressing the criticism of remuneration, YouTube argues that it has paid out over $12 billion to the music industry as of January 2020 (including $3 billion to rightsholders globally in 2019 alone) and projects that it will "become the music industry's number one source of revenue by 2025".[596] In the UK, YouTube argues that its creative ecosystem supports the equivalent of 30,000 full time jobs and contributes £1.4 billion to GDP.[597] However, evidence from Sonstream Ltd, a UK-based start-up alternative streaming service, contextualised these figures. Sonstream notes that that, though YouTube accounts for 51 percent of music streaming per year, it only contributed seven percent of all revenue (and that this figure also only applies to music accounted through their Content ID system, which accounts for less than half of the music on the platform).[598] Moreover, Sonstream Ltd argues that YouTube's $3 billion contribution to the music industry contrasts to its $15 billion total advertising revenue.[599] Finally, creators have argued that YouTube's own policies prevents them from participating in advertising revenue until they achieve 1,000 channel subscribers and 4,000 hours of watch time, which is difficult when competing within the parameters of opaque algorithms.[600] Tom Gray asserted that bringing YouTube to parity with other streaming services would positively impact creators: "if we can increase the dividend by 10 percent, 20 percent, 50 percent from YouTube or bring it in line with Spotify, which would be 10 times the value, that is an enormous amount of money for what are basically not highly paid people".[601]

Impact on competitors

169. The tech companies' safe harbour-protected business model also has an indirect impact on rightsholders through its competition with other streaming services. First, safe harbour protections for YouTube's ad-funded, UGC-hosting service has exacerbated conditions that limit changes in price for streaming subscriptions. Several witnesses have speculated that the ready availability of free music and the dominance of YouTube has led to prices for streaming services being fixed at £9.99 per month for over a decade (which, as discussed in Chapter 2, may benefit the consumer short-term but could have long-term impacts).[602] In real terms, static prices have equated to a reduction in remuneration for rightsholders of 26 percent.[603] Horacio Gutierrez, Head of Global Affairs and Chief Legal Officer at Spotify, noted, "the balance that we have to strike is one in which music does not become unaffordable to consumers and we are pushing them back into online piracy scenarios";[604] however, Elena Segal argued that this applied to legitimate free services as much as illegitimate pirate sites, stating that "competing with free is always very difficult because consumers have a choice to move to free" and that "it is challenging to compete on an unlevel playing field".[605] Raoul Chatterjee, Vice President for Content Partnerships at Soundcloud, defended the free-to-use model by arguing that ad-supported sites added

595 Qq566–79 [Katherine Oyama]
596 YouTube (EMS0144)
597 YouTube (EMS0144)
598 Sonstream Ltd (EMS0154)
599 Sonstream Ltd (EMS0154)
600 Natalia Wierzbicka (EMS0160)
601 Q67
602 Qq114 [Maria Forte], 118 [José Luis Sevillano]
603 Q18
604 Q597
605 Qq598, 616

incremental value to the industry from users who might not be able to afford monthly subscriptions where otherwise they may have turned to piracy, and that ad-supported services often performed an additive role alongside subscriptions to premium services.[606] However, whilst the services themselves may be additive, the time spent by consumers using ad-supported services over premium services would impact the number of streams that would otherwise be generated on the latter, which would subsequently impact rightsholder remuneration from relatively-more lucrative premium royalty pots.

170. Concurrently, the presence of these services has incentivised other services to introduce ad-funded services alongside their subscription models. The ad-funded model clearly presents an opportunity cost (i.e. the quantity of benefit forgone that is created by the choice of one option over another) for streaming services and rightsholders. Mr Gutierrez explained that 90 percent of revenues come from subscriptions in contrast to ten percent from the ad-funded tier,[607] despite having 155 million subscribers and 199 million ad-supported users respectively.[608] Explaining Apple's position, Elena Segal argued that "we do not think that an ad-supported service can generate enough revenue to support a healthy overall ecosystem and it would also go against our fundamental values on privacy".[609] However, it should be noted that this is not solely due to the presence and dominance of YouTube in the market. Both Spotify and Amazon conceded that their services would continue to operate their ad-funded, free-to-use tiers alongside their premium services given the counterfactual without YouTube.[610] Mr Gutierrez argued that "I do believe that the freemium service has value on its own":[611] this is likely both because of the industry's recent history of digital piracy,[612] as well as the fact that 60 percent of Spotify subscribers started on the ad-funded tier.[613]

171. **Safe harbour provisions that have been transposed into UK law have profoundly impacted the market for digital music consumption. YouTube's dominance of the music streaming market shows that the market has tipped. Safe harbour gives services that host user-generated content (UGC) a competitive advantage over other services and undermine the music industry's leverage in licensing negotiations by providing UGC-hosting services with broad limitations of liability. This has suppressed the value of the digital music market both in real and absolute terms even as these services generate multi-billion-dollar advertising revenues.**

172. **We note that the CMA has developed a pro-competition framework for tech companies with 'strategic market status' that dominate digital markets. *The CMA should consider exploring designating YouTube's streaming services as having strategic market status to encourage competition with its products.***

EU Directive on Copyright in the Digital Single Market

173. Evidence we received from the music industry often pointed to the European Union's Directive on Copyright in the Digital Single Market as one potential solution to the issues

606 Q541 [Raoul Chatterjee]
607 Q634
608 Qq627–35
609 Q642
610 Qq638–41 [Horacio Gutierrez, Paul Firth]
611 Q640
612 Q387 [Paul Pacifico]
613 Q628 [Horacio Gutierrez]

created by safe harbour. The Directive creates a new category of service, called online content-sharing service providers, whose "main or one of the main purposes is to store and give the public access to a large amount of copyright-protected works or other protected subject matter uploaded by its users, which it organises and promotes for profit-making purposes".[614] Article 17 of the Directive provides that the limitations of liability for content hosting provided by the E-Commerce Directive do not apply where a service "performs an act of communication to the public or an act of making available to the public".[615] As such, a provider will be liable for copyright infringement on their service unless they can demonstrate that they have made "best efforts" to obtain authorisation (i.e. a license) and to remove works for which rightsholders have provided "the relevant and necessary information" to do so (known as notice and take-down), and "acted expeditiously" to remove infringing content and prevent future uploads (known as notice and stay-down).[616] Whilst the Directive does therefore retain a fundamental limitation of liability for these services, it creates additional obligations for them in order to maintain it.

174. The Government's position on the Directive on Copyright in the Digital Single Market has shifted in recent years. Prior to the UK's exit from the European Union, the UK contributed to and actively supported the passage of the Directive. In December 2018, the then-Minister for Digital and the Creative Industries, Margot James MP, told our predecessor Committee that she welcomed the Directive,[617] and in July 2019 said publicly she had met with bodies from the creative industries to discuss how best to implement it.[618] In January 2020, her successor as Minister for Sport, Media and Creative Industries, Nigel Adams, reaffirmed that the Directive "contains many protections for our creative sector" but indicated that a decision had not been taken on whether to adopt it.[619] Less than a week later, the Government clarified that its commitment not to extend the EU exit implementation period meant that it would not implement the Directive.[620] In evidence to our inquiry, Minister Dinenage, alongside Tim Moss and the Minister for Science, Research and Innovation in the Department for Business, Energy and Industrial Strategy, Amanda Solloway MP, stated that the Government would take a wait and see approach to the Directive's implementation but declined to provide a timescale.[621]

175. In response, the tech sector has welcomed the Government's position and called for "policy certainty" from the UK.[622] The Internet Association, which represents over 40 of the world's internet companies, "encourages both the Committee and UK government to take an evidence-based, deliberative approach to considering any potential changes to the UK copyright framework in general, and in particular changes similar to those created by the recent EU Copyright Directive".[623] YouTube's own submission argues that any changes to copyright law should not be introduced until "a full economic assessment can be made of the impact of Article 17".[624] It also claimed that its caution is shared by some in the music industry, arguing that:

614 Directive (EU) 2019/790, Article 2
615 Directive (EU) 2019/790, Article 17
616 Directive (EU) 2019/790
617 Digital, Culture, Media and Sport Committee, Ninth Report of the Session 2017–19, Live music, HC 733, para 112
618 Equity (EMS0173)
619 Equity (EMS0173)
620 Equity (EMS0173)
621 Qq751–4 [Caroline Dinenage, Amanada Solloway, Tim Moss]
622 YouTube (EMS0144); Q531 [Katherine Oyama]
623 Internet Association (EMS0164)
624 YouTube (EMS0144)

> some of the music rights holders have been concerned that the new laws could be so confusing that incidental rights holders—for more incidental uses in a music video such as a toy or the owner of a copyrighted design on a T-shirt—would be empowered to strike down their content and reduce their revenues. I think that is actually a legitimate concern.[625]

176. However, evidence we received affirms that the music industry remains broadly supportive of the Directive, as it did during our predecessor Committee's inquiry into 'Live music'.[626] First, many in the industry support the Directive's aim to normalise how music is licensed for UGC-hosting services.[627] Second, it supports the Directive's attempt to address the issue of piracy through the notice and stay-down requirements.[628] Many musicians, both independently and via the Musicians' Union and trade associations, have called on the UK "not to fall behind on basic rights and protections in regards to creators' work"; others have argued that this would ensure reciprocity and a level playing field with Europe in terms of copyright protections, which will similarly safeguard the interests of creators.[629]

177. The Copyright Directive is not a silver bullet to issues caused by safe harbour, however. Written evidence from the Beggars Group warns against the lobbying power of the tech industry, which has for example has caused member-state implementation such as the draft German implementation to rightsholders in a worse place than the status quo ante.[630] Several submissions have argued though that the Directive could go further, in order to tighten obligations on services.[631] Sonstream, for example, argues that the burden of enforcing the obligations described in the Directive must fall on services rather than rightsholders.[632] Dr Hayleigh Bosher, Senior Lecturer in Intellectual Property Law at Brunel University, similarly argues that "the main limitation of Article 17 of the Directive is the wording that platforms, such as YouTube—which the law intended to capture—merely need to make their 'best efforts' to obtain authorisation", which "they would argue that their current system of Content ID would be adequate to meet this threshold", thereby potentially undermining the aims of the Directive.[633] This instance could create a worse outcome, where YouTube, as an existing, dominant entity continues to operate as currently but new entrants that might compete for YouTube's market share may disproportionately face additional barriers to entry. Alongside calling for the implementation of notice and stay-down requirements, the BPI calls for know your business customer obligations (which already exist in principle in UK law and provide require digital services to reveal

625 Q532 [Katherine Oyama]

626 Digital, Culture, Media and Sport Committee, Ninth Report of the Session 2017–19, Live music, HC 733, para 112

627 International Federation of Musicians (FIM) (EMS0025); Marcus Cain (EMS0049); MIDiA Research (EMS0073); Helienne Lindvall (EMS0112); IMPF, Independent Music Publishers International Forum (EMS0121); Association of Independent Music (EMS0157); Council of Music Makers, Featured Artists Coalition (FAC), Ivors Academy, Music Managers' Forum (MMF), Music Producers' Guild (MPG), and Musicians' Union (MU) (EMS0172); Creators' Rights Alliance (EMS0187); Iain Archer (EMS0190); The Ivors Academy of Music Creators (EMS0197); Isaac Neilson (EMS0201); SCRIPT (EMS0205)

628 Ali Gavan (EMS0026); Beggars Group Limited (EMS0047); MN2S Label Services (EMS0055); Dr Gareth Bonello (EMS0069); DIUO (EMS0074); IMPF, Independent Music Publishers International Forum (EMS0121); Cognizant (EMS0134); Renee Sheehan (EMS0195); BPI (EMS0208)

629 Anna Neale (EMS0058); Musicians' Union (EMS0080); Joe Newman (EMS0083); British Copyright Council (EMS0139); PRS for Music (EMS0158); Equity (EMS0173); SCRIPT (EMS0205)

630 Beggars Group Limited (EMS0047)

631 Just East of Jazz (EMS0079); Musicians' Union (EMS0080); Sonstream Ltd (EMS0154); Adam Fenn (EMS0180); Dr Hayleigh Bosher (EMS0254)

632 Sonstream Ltd (EMS0154)

633 Dr Hayleigh Bosher (EMS0254)

the identity of their commercial partners and customers) to be adequately enforced to allow for more effective enforcement against copyright infringement and illegal content hosting with minimal burdens on legitimate businesses.

178. **As we have acknowledged, the Government has repeatedly told us that it will not implement the Directive on Copyright in the Digital Single Market. However, to ensure that music creators and companies prosper in the globally important UK music market, the Government must provide protections for rightsholders that are at least as robust as those provided in other jurisdictions.** ***As a priority, the Government should introduce robust and legally enforceable obligations to normalise licensing arrangements for UGC-hosting services, to address the market distortions and the music streaming 'value gap'. It must ensure that these obligations are proportionate so as to apply to the dominant players like YouTube but does not discourage new entrants to the market. It must also ensure that existing obligations are being enforced as appropriate, and detail in its Response how it plans to address the recording industry's concerns regarding the enforcement of existing 'know your business customer' obligations.***

Payment models

Pro-rata system

179. Of the different models that have emerged to pay for streaming music, the predominant model that exists in some form for all major streaming services is the pro-rata system. Under this model, the service aggregates all net distributable revenue from a population and distributes monies according to the proportion of aggregate streams each rightsholder has achieved.[634] This can be expressed as *(net distributable revenue ÷ total number of streams) × pro rata share of total streams.* In oral evidence, streaming services stated that revenue is pooled depending on its source, so that the subscription and advertising revenue pools are calculated separately.[635] Will Page, former Chief Economist at Spotify, argues that the system is "inherently fair" as it is efficient, transparent (insofar as every stream is worth the same to the rights holder) and cost-effective to manage.[636] Mr Page does acknowledge that the model "does not, however, recognise that no two consumers necessarily value their streams equally—so those who stream more would effectively be subsidised by those who stream less".[637]

Alternative models

180. Many have called for revenue to be distributed by a user-centric payment system, including performers, songwriters and composers of various genres and their trade bodies, prominent academics, several record labels and publishers such as BMG, and other music businesses such as the Hipgnosis Songs Fund and Soundtrack Your Brand.[638] As Will

634 Will Page (EMS0166)
635 Q633
636 Will Page (EMS0166)
637 Will Page (EMS0166)
638 Qq54–7, 86, 90, 103, 106, 161, 195, 197; Iain Cameron (EMS0015); Dr Gary Sinclair (EMS0019); Ben Sizer (EMS0050); Anna Neale (EMS0058); Just East of Jazz (EMS0079); Musicians' Union (EMS0080); Steve Farris (EMS0131); Verity Susman (EMS0136); Professor David Hesmondhalgh (EMS0143); All Party Parliamentary Jazz Appreciation Group (EMS0161); Christian Castle (EMS0165); Creators' Rights Alliance (EMS0187); The Ivors Academy of Music Creators (EMS0197); SCRIPT (EMS0205); BMG (EMS0207); Incorporated Society of Musicians (EMS0223); Soundtrack Your Brand (EMS0228); Hipgnosis Songs Fund Limited (EMS0237); Musicians' Union (EMS0258)

Page explains, a user-centric distribution isolates each consumer's subscription fee and allocates it exclusively to the tracks streamed by that consumer.[639] However, whilst Mr Page, AIM and others argue that user-centric distributions would increase administrative and operational costs due to increasing complexities,[640] these would likely be well within the current processing limits of modern computer systems (which nonetheless continue to improve anyway). Tom Gray advocated user-centric distribution in oral evidence, arguing that it would better fund niche genres such as classical, jazz and regional and national music that would not otherwise aggregate a significant portion of total streams when considered pro-rata.[641] However, user-centric payments could (only) benefit acts to the extent their listeners were more likely than average to be listening to their tracks and not those which have larger than average pro-rata market shares for streams. It would not, of course, increase the average payment, nor the share to artists; to the extent that some artists would win from such a change, others would lose out. That said, evidence we received did make the case that, regardless, many consumers did wish to see the money from their subscriptions more directly reach the artists they listened to,[642] which may explain to some degree the growth of artists releasing content directly to fans on platforms like Patreon.[643] The Creators' Rights Alliance and AIM CEO Paul Pacifico have also noted that a user-centric system would also help guard against issues of fraud created by fake plays, whereby pro-rata shares of streams could be artificially inflated by fake and/or automated accounts.[644] Academic research also suggests that user-centric payments could provide greater clarity and address concerns regarding the allocation of rights payments, enhance artist-audience relationships and encourage greater ethical consumption amongst users.[645] Evidence from across the music industry, including performers, songwriters, composers, publishers and some independent labels, have subsequently called for user-centric payments or at least expressed positive sentiments about the system.[646]

181. As discussed in Chapter 2, it should be recognised that start-ups such as Resonate and Sonstream demonstrate the imaginative and dynamic solutions to artists' issues with the pro-rata status quo. Established streaming services, including Spotify, have also expressed an open-mindedness in exploring new payment models.[647] Members of the Entertainment Retailers' Association have similarly pledged "to providing data to enable the industry to analyse the effects of adopting user-centric licensing".[648] Recently, SoundCloud announced that it would trial what it calls fan-powered royalties for independent creators.[649]

182. In oral and written evidence, the major music groups were relatively agnostic about the introduction of user-centric payments, though did restate several critiques of the model. We note that Universal were most open to exploring alternatives, welcoming

639 Will Page (EMS0166)
640 Will Page (EMS0166); Association of Independent Music (EMS0285); Q353
641 Qq55–7; see also Q195 [Fiona Bevan]
642 Qq18–9 [Tom Gray]
643 Patreon, Inc. (EMS0110)
644 Creators' Rights Alliance (EMS0187); Q355
645 Dr Gary Sinclair (EMS0019); Professor David Hesmondhalgh (EMS0143)
646 Qq55–7, 161, 195, 353–6, 535, 590; Matthew Whiteside (EMS0022); Ben Sizer (EMS0050); Anna Neale (EMS0058); Dr Gareth Bonello (EMS0069); Just East of Jazz (EMS0079); Musicians' Union (EMS0080); Steve Farris (EMS0131); Verity Susman (EMS0136); All Party Parliamentary Jazz Appreciation Group (EMS0161); Christian Castle (EMS0165); Creators' Rights Alliance (EMS0187); The Ivors Academy of Music Creators (EMS0197); BMG (EMS0207); Incorporated Society of Musicians (EMS0223); Soundtrack Your Brand (EMS0228)
647 Qq535 [Raoul Chatterjee], 590 [Horacio Gutierrez]
648 Entertainment Retailers Association (EMS0081)
649 "SoundCloud goes user-centric with its 'fan-powered royalties'", Music Ally (2 March 2021)

"any proposal that maximizes fairness and transparency and supports market growth".[650] Sony, in both oral and written evidence, recommended caution, given that a user-centric approach necessarily would mean reallocating money from creators doing well through pro-rata to those that would do well through user-centric payments, and recommended "thorough and concerted impact assessments in order to establish an industry-wide support".[651] Both Sony and Warner did take the opportunity to assert in no uncertain terms that contractual agreements between industry and streaming services would not allow services to unilaterally change accounting methodologies without modifying license agreements.[652]

183. **The debate between the predominant pro-rata payment model and alternative methodologies such as user-centric has been compelling. It is positive that new services are inventing new and creative ways to address creators' and consumers' concerns about the fairness and transparency of creator remuneration from streaming. We are concerned, however, that current contractual agreements between the major music companies and streaming services have the potential to stifle further innovation if they are misused. *The CMA should consider in its case (recommended in paragraph 111) whether these agreements have the potential to (or indeed have already) prevented experimentation and innovation by streaming services.***

Livestreaming and digital music futures

184. As has been made clear throughout our inquiry, technological development has a significant impact on how music is consumed and, through initiatives such as the WIPO Internet Treaties and EU Directive on Copyright in the Digital Single Market, provokes concurrent (international) political responses to technology in turn. It is necessary to recognise that music consumption will not remain static and is likely to evolve as digital technology develops. As Nile Rodgers observed, "as the technology changes […], we should have a way of calculating that IP. We should have a way of understanding how the industry sets a price."[653]

185. One such change is already coming to the fore: the role of livestreaming as both a direct and indirect mode of music consumption. It is already becoming an area of contestation within the music industry and between the music and tech sectors. First, livestreaming offers new ways for performers to create music, given the reliance on live income. As Geoff Taylor, CEO of the BPI, posited, this has been further incentivised by the pandemic:

> livestreaming was not a huge business for artists in terms of concerts and obviously artists have had to get really creative about how they create new livestreams as a business model.[654]

Katherine Oyama, Director of Government Affairs and Policy at YouTube, described how livestreaming has been successful for some performers:

> We have been looking at livestreams. In the last couple of months, we have had livestream concerts—Blackpink is a good example. They just sold tickets

650 Universal Music UK & Ireland (EMS0281)
651 Sony Music UK & Ireland (EMS0280); Q277 [Jason Iley]
652 Sony Music UK & Ireland (EMS0280); Warner Music UK (EMS0279)
653 Q169
654 Q463

> to a live concert on YouTube. They sold out about 20 times the capacity of the O2 arena for one concert. I think Niall Horan did one recently in the UK from the Royal Albert Hall; he had about 150,000 customers, at maybe $20 each. It is about diversifying and looking at whether we can monetise livestreams more. A lot of artists are turning to their channels to sell their own merchandise, or even their own vinyl records. Some are experimenting with memberships on their channels. I think there will be more opportunities like that.[655]

Despite these opportunities, livestreaming has already provoked controversy within the music industry. In December 2020, PRS implemented a tariff on its members of eight to 17 percent on livestreams, an increase on its usual tariff of 4.2 percent for live shows, and announced flat fees for shows that generate less than £500 and £251 regardless of takings.[656] The move was subsequently criticised by industry groups for penalising grassroots performers and performer-songwriters and would not deliver the desired benefit to grassroots songwriters,[657] and PRS later backed down from its flat fee proposals.[658] In May 2021, PRS for Music was also criticised for a ten percent backdated livestream tariff "to support the live sector during its forced closure" on livestreams with revenues of over £1,500.[659] As livestreaming becomes more popular, with potential implications for the future of live music, these issues could continue to arise.

186. Second, as livestreaming continues to grow in other contexts, such as gaming, entertainment and other cultural sectors, so does the potential for copyright infringement. This could be an infringement by those creating the stream. In November 2020, for example, Twitch published a blog post responding to its own creators' frustrations regarding "a sudden avalanche of notifications" as "representatives for the major record labels started sending thousands of [Digital Millennium Copyright Act] notifications each week that targeted creators' archives, mostly for snippets of tracks in years-old Clips", of which more than 99 percent were for tracks that streamers were playing in the background of their streams.[660] However, this could also be infringement enabled by livestreaming (correctly licensed and legitimately used) content. As Geoff Taylor explained, this form of piracy is enabled by stream-ripping:

> At the same time, illegal streaming of live content, or illegal streams, weren't a huge part of the piracy problem. We have seen that tick up, but particularly what's called stream-rippers. Services like YouTube, which aggregate huge amounts of content, don't protect that content properly, and then you have these hostile applications called stream-rippers, on mobile devices, that will just turn a livestream into a download, effectively—so you have got that song for free, forever.[661]

187. **As technology continues to evolve, the Government must ensure that copyright law is fit for purpose and that appropriate mechanisms are in place for rightsholders to**

655 Q549
656 "UK music industry outraged over licence fee cost for live-streamed events", The Guardian (28 January 2021)
657 "Music industry hits back at new PRS tariffs for livestream performances", NME (28 January 2021)
658 "PRS for Music backs down on livestream licence fee plan", The Guardian (1 February 2021)
659 "PRS Issues a 10% Backdated Livestream Tariff—Not Everyone's So Thrilled With the 'Discount'", Digital Music News (7 May 2021)
660 Twitch, Music-Related Copyright Claims and Twitch (11 November 2020)
661 Q463

enforce their rights. The Intellectual Property Office must not be a passive witness but an active player, particularly in areas of systemic contestation between rightsholders or where rightsholders believe that their rights are being systematically infringed. ***We recommend that the Government set out a clear position on livestreaming, both regarding remuneration of rightsholders and the live sector and explain what actions it is taking to support rightsholders in tackling copyright infringement. It should also explain what it and the IPO are doing to identify emerging threats to rightsholders enabled or caused by new technologies.***

Annex 1: Glossary of terms

Table 1: <Relevant glossary of terms>

Term	Definition
Aggregator	An intermediary company that submits music to DSPs for companies.
AIE	Artistas Intérpretes o Ejecutantes, Entidad de Gestión de Derechos de Propiedad Intelectual. A Spanish collecting society operating globally through 98 reciprocal agreements with collecting societies in 57 countries.
AIM	Association of Independent Music. A UK trade organisation for the independent music community, representing over 1000 independent record labels and associated businesses.
Assignment	Where rights ownership is transferred from one party to another.
Anglo-American Repertoire	Commonly refers to songs registered with collecting societies in the UK, Ireland, United States, Canada, Australia, New Zealand and South Africa.
Artist	Someone who performs the work written by a songwriter or composer during the recording of the track (see featured artist/ performer and non-featured artist/performer). Also referred to as a performer or recording artist.
Author	A catch-all term for composers and songwriters.
BPI	British Phonographic Industry Limited. A UK trade organisation representing the recorded music industry, including the three major record labels and over 400 independent record labels.
CMA	Competition and Markets Authority. The UK's competition regulator that works to promote competition for the benefit of consumers, both within and outside the UK.
CMO	Collective Management Organisation (see collecting society).
Collecting society	A non-governmental body created by copyright law or private agreement which licenses copyright works on behalf of the creators and engages in collective rights management. Also known as a copyright collective, copyright society, copyright collecting agency, licensing agency, copyright collecting society or collective management organisation (CMO).
Collective licensing	When rightsholders license their rights together as one entity, appointing a collecting society to enforce and administer these rights on their behalf. Often subject to additional regulation to address competition law concerns.
Collective rights management	The licensing of copyright and related rights by organisations acting on behalf of rightsholders.
Composer	Someone who writes music and lyrics for songs of any genre.
Compulsory licensing	When the law obliges rightsholders to provide a license to (a certain group of) licensees, usually managed by collecting societies.
Communication to the public	A form of copyright control exploited by broadcasters where there is "any communication to the public of their works by wire or wireless means".
Creator	A catch-all term referring to composers, songwriters, artists, performers and producers.
Distributor	An intermediary company that gets recorded music to relevant (physical and digital) markets.

Term	Definition
DSP	Digital Service Provider. In the music industry, a DSP is a company that provides digital music services, such as downloading and streaming.
ERA	Entertainment Retailers' Association. A UK trade organisation formed to act as a forum for the physical and digital retail and wholesale sectors of the music, video and videogames industries.
Equitable remuneration	A performer right where performers (including non-featured performers) enjoy an automatic, unalienable, non-transferable statutory right to share in recording revenues. The right to equitable remuneration only applies in certain circumstances, as established in the Copyright, Designs and Patents Act 1988.
FAC	Featured Artists' Coalition. A UK trade organisation representing the specific, collective rights and interests of featured artists, with a global membership of creators at all stages of their careers.
Featured artist/ performer	A performer whose name the performance or recording is released under, as opposed to a non-featured artist/performer. Record labels will sign deals with featured artists.
Freemium	A hybrid music streaming service that incorporates both a basic, ad-funded streaming service free of charge alongside one or more premium services offering additional or enhanced functionality.
IFPI	International Federation of the Phonographic Industry. A trade association that promotes the interests of the international recording industry worldwide. It has over 8,000 members across more than 70 countries.
IMPALA	Independent Music Companies Association. An international trade organisation for independent music companies. Formerly the Independent Music Publishers and Labels Association.
IMPEL	An international hub for independent music publishers who collectively license their mechanical rights to a wide range of streaming services.
IMPF	Independent Music Publishers' Forum. A trade association representing independent music publishers globally, based in Brussels. It has more than 90 members throughout the world including the leading independent music publishing companies in the UK.
Independent music company	A company which, together with the companies in its group, has less than five percent of the world market in recording and publishing.
Internet Association	A trade association that represents the global interests of over 40 of the world's internet companies.
Ivors Academy	A trade association representing professional songwriters and composers to support, protect and celebrate music creators, including through its internationally respected Ivors Awards. Formerly named the British Academy of Songwriters, Composers and Authors (BASCA). Now named for Ivor Novello, a Welsh composer and actor.
Making available right	A form of copyright control exploited by services (e.g. streaming services) where the user "may access [music] from a place and at a time individually chosen by them".
Major music company	A multinational company which, together with the companies in its group, has more than five percent of the world market in recording and publishing.

Term	Definition
Mechanical rights	How publishers refer to reproduction rights, particularly when exploited through the recording and distribution of songs.
MMF	Music Managers' Forum. A UK trade organisation with a membership of over 1,000 that engages, advises and lobbies industry associates and wider industry on issues that are relevant to music managers.
MPA	Music Publishers' Association. A UK trade organisation that represents the music publishing sector, acting on behalf of 240 members ranging from the UK's major music publishers to independents and start-ups and representing close to 4,000 catalogues.
MPG	Music Producers' Guild. A UK trade organisation representing and promoting the interests of all those involved in the production of recorded music, including music studios, producers, engineers, mixers, remixers, programmers and mastering engineers.
MU	Musicians' Union. A trade union for performers, songwriters and composers run by its 32,000 members.
Non-featured artist/performer	A performer who is only credited on a recording in small print, such as back-up singers or session musicians.
Performer	Someone who performs the work written by a songwriter or composer during the recording of the track (see featured artist/performer and non-featured artist/performer). Also referred to as an artist or recording artist.
Performer rights	The specific rights of performers over sound recordings of their performances that co-exist with the rights of the rightsholder where the performer does not own the relevant rights to their performance. This includes the right to equitable remuneration.
Performing rights	A specific copyright control regarding the public performance and communication of works.
PPL	Phonographic Performance Limited. A collecting society that collects royalties on behalf of over 110,000 record companies and performers. It licenses recorded music played in public (at pubs, nightclubs, restaurants, shops, offices and many other business types) and broadcast (TV and radio). This includes when their recorded music is played around the world through a network of international agreements with other collecting societies.
PRO	Performing Rights Organisation. A collecting society that specifically focuses on performing rights.
PRS for Music	A collecting society that is responsible for the collective licensing of rights in the musical works of 150,000 composers, songwriters and publishers and an international repertoire of 28 million songs. The Mechanical-Copyright Protection Society (MCPS) collects for 'mechanical' reproduction rights and the Performing Right Society (PRS) collects for public performance rights.
Publisher	A music company that owns and controls song rights, so called because they historically published sheet music books.
Record label	A company that markets recorded music and corresponding videos, invests in new artists and enforces copyright, so called because of the circular label that appeared on the cover of physical sales. Also known as a record company.
Recording rights	Copyright in sound recording of a performance. Also known as master rights.

Term	Definition
Reproduction rights	A specific copyright control regarding the reproduction and distribution of works.
RIAA	Recording Industry Association of America. A trade organisation that represents the recorded music industry in the United States.
Safe harbour	A statutory limitation of financial and pecuniary liability for internet service providers (including music streaming services that host user-generated content) where the provider "has neither knowledge of nor control over the [infringing] information which is transmitted or stored".
Song rights	Copyright in the song lyrics and music.
Songwriter	Someone who writes music and lyrics for songs of any genre.
Streaming	The process whereby music multimedia is accessed by consumers over the internet.
Synchronisation (sync)	When film, TV and game producers incorporate music into audio-visual productions.
techUK	A UK trade association for technology companies with over 850 members.
UK Music	An industry-funded trade organisation established in October 2008 to represent the collective interests of the recorded, published and live arms of the British music industry.
Work	The underlying music composition, comprising music and lyrics.
Writer	A catch-all term for composers and songwriters.

Source: Dr Nicola Searle (EMS0041); IMPF, Independent Music Publishers International Forum (EMS0121); The Ivors Academy of Music Creators (EMS0197); IFPI (EMS0209); Chris Cooke, *Dissecting the Digital Dollar*, 3rd edition (Wrocław, 2020)

Annex 2: Music streaming service models

1) This annex will provide a broad overview of different ways to categorise streaming services to complement the discussions in Chapters 2 and 5.

Consumer pricing strategy

2) The majority of music streaming is accessible in one of two ways: through premium services, whereby users pay a (typically) monthly subscription, or through free services, which are funded by third-party advertising that is targeted to users by processing their personal data.[662] Basic premium services, such as Spotify, Apple Music, YouTube Music, Tidal Premium, Deezer Premium and SoundCloud Go+, typically cost £9.99, with student and family plans for £4.99 and £14.99 respectively (though Spotify has recently raised its student, duo and family plan prices to £5.99, £13.99 and £16.99 respectively).[663] Some services offer more granular premium tier structures with certain service restrictions (such as limits on track skipping, device registration and catalogue access for cheaper tiers) or extras (like high fidelity sound for more expensive tiers) to supplement the baseline premium offering.[664] Free services are typically more basic, with additional frictions for consumers such as audio and display adverts, usage-limits and online-only playback. Moreover, some services, like Spotify, Amazon, SoundCloud and YouTube, offer a 'freemium' pricing strategy, providing a hybrid service that incorporates both a basic streaming service (with the frictions described above) free of charge alongside one or more premium services offering additional or enhanced functionality.[665]

3) Whilst the free, premium and freemium pricing strategies are the most prevalent, some services are innovating either to leverage other services or differentiate themselves from their competitors. Amazon bundle a basic streaming service called Amazon Music Prime with their broader Amazon Prime subscription, which gives users on-demand ad-free music streaming of a limited catalogue of two million songs alongside shopping benefits and a video streaming offering.[666] Other platforms offer alternatives to the subscription model altogether. Resonate, a co-operatively run British music streaming service, has developed what it calls a 'stream2own' model, where users add credits to their account and pay a fee (starting at 0.002 cents), which doubles for every subsequent stream to a total of nine streams, after which a user will have paid approximately the same price as an Apple download (€1.022) and can then listen for no additional charge.[667] A Stoke-based start-up called Sonstream similarly charges micropayments every time a user listens to a song, which means that some users might pay significantly more or less than £9.99 depending on their usage.[668] Finally, the BBC, which is currently funded by the licence fee and the commercial income it generates through its subsidiaries BBC Studios, BBC Global News and BBC Studioworks, has also pivoted its own audio-only content to respond to the challenges of music streaming, offering both live and on-demand music, podcasts and speech through its BBC Sounds app.[669]

662 Dr Nicola Searle (EMS0041); Dr Gary Sinclair (EMS0019); DIUO (EMS0074)
663 "Spotify to increase prices for families and students", The Telegraph (27 April 2021)
664 Allison Noble (EMS0115); BBC (EMS0227)
665 Artistas Intérpretes o Ejecutantes, Entidad de Gestión de Derechos de Propiedad Intelectual (AIE) (EMS0133); Incorporated Society of Musicians (EMS0223)
666 Amazon, What is Amazon Music Prime?, accessed 26 March 2021
667 Resonate Co-operative (Resonate (Beyond Streaming) Ltd) (EMS0169)
668 Sonstream Ltd (EMS0154); Q27
669 Music Managers' Forum and Featured Artists' Coalition (EMS0128); BBC (EMS0227)

Consumer access

4) Most services considered in this Report, such as Spotify, Apple Music, Amazon Music, SoundCloud and Tidal, specialise in offering music consumption, be it through music streaming only or alongside a digital downloads store (as, for instance, in the case of Apple's integrated iTunes Store). YouTube (and YouTube Premium) exists as an outlier, as music streaming is largely incidental to its broader video-hosting service, despite the fact that it both dominates the music streaming market and offers its own bespoke music streaming service in YouTube Music. However, these services are all similar in that they offer all-you-can-eat streaming services to music consumers in some capacity (either for free or at a premium or both).[670] This means that consumers have access to a service's entire catalogue with little-to-no content restrictions or consumption limits placed upon them.

5) However, after over a decade of music streaming being available, alternatives to the all-you-can-eat model are beginning to emerge. Music streaming services are, for example, complimented by community-oriented services that allow users to consume the creative output of specific creators. Tech companies like Patreon and Bandcamp have allowed artists to create fan communities and monetise this fanbase independently of corporate partners by offering exclusive or early access to creative content, merchandise, and other benefits.[671] American artist Cardi B, for example, announced in August 2020 that she would be releasing behind-the-scenes content from her single 'WAP' on subscription service OnlyFans.[672] Finally, tech companies that offer social media services have also started exploring how they can offer digital music services as well. Major licensing agreements have been reached with social media services like Facebook, Instagram and Snapchat,[673] whilst Twitch, a video streaming platform owned by Amazon, and TikTok, the short-form video-sharing app, are reportedly also developing music content strategies.[674]

Content hosting

6) Most streaming platforms host recorded music that is commercially created and officially licensed from the music industry itself,[675] whether this is via record labels, aggregators and distributors or collecting societies (which represent rightsholders when they license music collectively to third parties). However, some platforms permit users to upload content themselves. This user-uploaded content (UUC) can either be user-generated content (UGC), which can be entirely original or incorporate commercially created audio and/or video (where this is permitted),[676] or otherwise straightforwardly a copy of commercially created content.[677] The distinction between the two models of content hosting is important. Sites that host UUC are exempted from legal liability for copyright infringement (among other things) unless and until they obtain "actual knowledge" of infringing activity, after which they must act expeditiously to remove or to disable access to the information.[678] In the European Union, these companies, along with

670 DIUO (EMS0074)
671 MIDiA Research (EMS0073); DIUO (EMS0074); Patreon, Inc. (EMS0110)
672 MIDiA Research (EMS0073)
673 Music Managers Forum and Featured Artists Coalition (EMS0128)
674 Will Page (EMS0166)
675 BPI (EMS0208)
676 Copyright, Designs and Patents Act 1988, sections 29–30A
677 BPI (EMS0208)
678 SCRIPT (EMS0205)

social media companies like Facebook and Twitch where music streaming is incidental to their overall service, will acquire new obligations under the European Union's Directive on Copyright in the Digital Single Market[679] as services that "store and give the public access to a large amount of copyright-protected works or other protected subject matter uploaded by its users, which it organises and promotes for profit-making purposes";[680] the UK Government has stated its intention not to implement the Directive in the near future.[681]

Types of content

7) Similarly, most music streaming services tend to be audio-only or audio and video. By contrast, companies that primarily offer social media services tend to allow video because music streaming is incidental to their broader service offering. By design, SoundCloud offers audio-only music streaming, whilst Spotify and Apple Music allow users to stream both audio-only tracks and official music videos where available. YouTube's basic service, by contrast, is video-only (and mobile users can only listen/watch with the app open), though its YouTube Premium service and YouTube Music premium tier allow for background/audio-only playback. This Report predominantly considers the economics of recorded music and music video. However, social media services like Twitch, YouTube and Facebook allow users to 'livestream' music performances, where media content is simultaneously recorded and broadcast in real-time. Livestreaming has become increasingly popular in response to the absence of live music due to social distancing and lockdown measures throughout the pandemic, with some artists hosting virtual gigs funded via off-platform 'ticket' sales.[682] Livestreaming may prompt another long-term change in music consumption as it becomes increasingly accessible and popular.[683]

Payment model

8) The dominant payment distribution model in the music streaming market is the 'pro-rata' system. Will Page, former chief economist at Spotify, explains that the pro-rata system "aggregates all consumption and spend from a country's subscriber population and distributes royalties to rights holders 'pro-rata' to their streams". Therefore, if one artist's tracks accounted for a specific share of all subscription streams in that country in that month, that artist would receive that share of all the streaming service's net distributable revenue from that country.[684] Page himself argues that whilst the system "is inherently fair insofar as it produces an efficient and transparent outcome where every stream is worth the same to the rights holder, and the model is relatively cost-efficient to manage", it does not account for the fact that "no two consumers necessarily value their streams equally—so those who stream more would effectively be subsidised by those who stream less".[685]

9) One alternative to this approach is the 'user-centric' payments system. Under a user-centric payment system, the revenue generated by each individual user is distributed to rightsholders on the basis of share of that user's own individual music consumption.[686] Artists, songwriters and industry professionals have all expressed support for user-centric

679 Directive (EU) 2019/790, Article 17
680 CREATe: UK Copyright and Creative Economy Centre, University of Glasgow (EMS0189)
681 Qq750–2
682 YouTube (EMS0144)
683 MIDiA Research (EMS0073)
684 MIDiA Research (EMS0073)
685 MIDiA Research (EMS0073)
686 Professor David Hesmondhalgh (EMS0143); All Party Parliamentary Jazz Appreciation Group (EMS0161)

payments, or at least expressed an interest in undertaking further research.[687] However, record labels provided a more nuanced perspective on user-centric payments. Sony Music described it as "a very difficult conversation" because they have "different artists that favour the two different options" and as such "would be favouring one subset of artists over another".[688] Independent labels, meanwhile, ranged from broad opposition to caveated support: Yvette Griffith of Jazz Re:freshed posited that "user-centric not going to work for the indie sector", whilst Rupert Skellett of Beggars Group mused that "feels fairer to us philosophically" but was "not sure user-centric is a panacea".[689] During our inquiry, SoundCloud announced that it would introduce a user-centric payments system, albeit limited to independent and emerging artists.[690] French streaming service Deezer has previously expressed an interest in similarly introducing user-centric payments across its catalogue.[691] The Resonate Co-operative's 'stream2own' model and Sonstream's pay-per-stream model similarly function on a user-centric basis, as users pay based on their own usage.[692]

10) Another alternative is the 'artist growth' model proposed by the Association of Independent Music. This model values a track's streams in tiers on a log scale, where the first streams are the most valuable and subsequent streams are tiered as therefore paid incrementally less.[693] They argue that this would encourage labels to take greater risks on emerging creators, rather than consolidate around historically successful tracks.

11) Finally, jazz saxophonist, MC and composer Soweto Kinch discussed the potential for artist-centric models of music streaming, whereby artists "could offer something that is more bespoke to a listener, […] some higher-level broadcast quality, WAV files or some other level of interaction" as currently "there is no ability to set your own prices as an artist on streaming platforms".[694] Given the emergence of fan-based communities discussed above, we would be interested to see whether the market could produce and support a viable artist-centric service in future.

687 Qq54–9 [Tom Gray], 161 [Maria Forte], 195 [Fiona Bevan], 535 [Raoul Chatterjee], 590 [Horacio Gutierrez]; All Party Parliamentary Jazz Appreciation Group (EMS0161); Creators' Rights Alliance (EMS0187); The Ivors Academy of Music Creators (EMS0197); BMG (EMS0207)

688 Q277 [Jason Iley]

689 Qq352–5

690 "SoundCloud launches 'transformative' user-centric payments system", Music Week (2 March 2021)

691 "Deezer still pushing for user-centric payouts: 'We will continue fighting…'", Music Ally (1 October 2020)

692 Sonstream Ltd (EMS0154); Resonate Co-operative (Resonate (Beyond Streaming) Ltd) (EMS0169)

693 Association of Independent Music (EMS0271)

694 Q199

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Conclusions and recommendations

The dominance of digital music

1. Streaming has undoubtedly helped save the music industry following two decades of digital piracy but it is clear that what has been saved does not work for everyone. The issues ostensibly created by streaming simply reflect more fundamental, structural problems within the recorded music industry. Streaming needs a complete reset. (Paragraph 41)

Creator remuneration

2. *We urge Universal and Warner to look again at the issue of unrecouped balances with a view to enabling more of their legacy artists to receive payments when their music is streamed.* (Paragraph 46)

3. The pitiful returns from music streaming impact the entire creative ecosystem. Successful, critically acclaimed professional performers are seeing meagre returns from the dominant mode of music consumption. Non-featured performers are frozen out altogether, impacting what should be a viable career in its own right, as well as a critical pipeline for new talent. Those that provide specialist support for creators, either based on commission or working as salaried staff as part of an artist's business or technical expertise, are also affected, meaning that fewer jobs will be sustained by an otherwise growing sector. (Paragraph 58)

4. The major music companies and independent record labels have consistently asserted that music streaming is straightforwardly 'making available', and therefore performers should be remunerated as though it was a sale. However, this classification does not consider the complexities of streaming that sets it apart from other modes of consumption. For example, it also has the characteristics of a rental and a broadcast, which are consumed by exploiting copyright controls that provide performers with a statutory right to equitable remuneration. Furthermore, this classification creates inconsistencies in comparison to the song rights. Finally, precluding the making available right from equitable remuneration does not capture the realities of costs associated with the distribution of digital music. *We recommend that the Government addresses these inconsistencies and incongruities by exploring ways to provide performers with a right to equitable remuneration when music is consumed by digital means.* (Paragraph 69)

5. The right to equitable remuneration is a simple yet effective solution to the problems caused by poor remuneration from music streaming. It is a right that is already established within UK law and has been applied to streaming elsewhere in the world. A clear solution would therefore be to apply the right to equitable remuneration to the making available right in a similar way to the rental right. As such, an additive 'digital music remuneration' payment would be made to performers through their collecting societies when their music is streamed or downloaded. This digital music remuneration would address the issues of long-term sustainability for professional performers and the cannibalisation of other forms of music consumption where equitable remuneration applies, whilst also retaining the benefits of direct licensing. (Paragraph 76)

6. *We recommend that the Government legislate so that performers enjoy the right to equitable remuneration for streaming income. Amending the Copyright, Design and Patents Act 1988 so that the making available right does not preclude the right to equitable remuneration, using the precedent set by the co-existence of the rental right and right to equitable remuneration in UK law, would be an effective solution. This would be relatively simple to enact and would appropriately reflect the diminished (and increasingly externalised) marginal costs of production and distribution associated with digital consumption. Furthermore, were the Government to do this by echoing existing UK law, this remuneration right would apply to the rightsholders (i.e. the record labels) rather than the streaming services.* (Paragraph 77)

7. Despite being an important part in the music creation and music streaming process, song rightsholders are not effectively remunerated for their work. *The Government should work with creators and the independent publishing sector to explore ways in which new and upcoming songwriters and composers can be supported to have sustainable careers and independent music publishers remain commercially viable. As part of this, and in the context of increasing digital music consumption through streaming, we urge them to consider how to ensure that the song is valued in parity with the recording. If necessary, the Government should bring forward legislative proposals alongside the introduction of equitable remuneration for performers proposed in paragraphs 76–7 to ensure that all creators benefit from these reforms.* (Paragraph 88)

8. Metadata issues compound the poor terms on which creators are remunerated. Whilst there is a significant challenge, it is not insurmountable. *First, the Government must oblige record labels to provide metadata for the underlying song when they license a recording to streaming services. Second, it should push industry by any means necessary to establish a minimum viable data standard within the next two years to ensure that services provide data in a way that is usable and comparable across all services. Third, it should work with industry to end the practice of distributing black boxes pro rata and, instead, place obligations on collecting societies that mean that this revenue is reinvested in the industry, such as to support creative talent and or develop solutions to revenue distribution issues. The Government should concurrently commission an exploratory audit of black boxes to achieve greater clarity as to what is genuinely impossible to allocate and what is mis- or un-allocated due to a lack of will. Finally, the Government should explore the practicalities of creating or commissioning a comprehensive musical works database and task the IPO with co-ordinating industry work on a registration portal so that rightsholders can provide accurate copyright data to necessary stakeholders easily.* (Paragraph 94)

9. The licensing and royalty chains of song rights causes considerable confusion and complexity to the system, and songwriters and composers pay the price. There is no single solution to create more efficient and timely royalty chains but the Government can work with industry to facilitate this. *The Government should require all publishers and collecting societies to publish royalty chain information to provide transparency to creators about how much money is flowing through the system and where problems are arising. This should be done periodically, and in a way that is practical and useful to other stakeholders, including other collecting societies and publishers. It should also require publishers and collecting societies to put in place efficient, practical alert systems to inform creators and representatives about data*

conflicts. Finally, the Government should leverage the size of the UK market to explore how global licensing deals could be made possible by policymakers around the world, including in trade deals, which would support creators both domestically and abroad. (Paragraph 97)

The market for music rights

10. There is no doubt that the major music groups currently dominate the music industry, both in terms of overall market share in recording and (to a lesser extent) in publishing, but also through vertical integration, their acquisition of competing services and the system of cross-ownership. *We recommend that the Government refer a case to the Competition and Markets Authority (CMA), to undertake a full market study into the economic impact of the majors' dominance (see paragraphs 129, 134 and 183 for further recommendations). The Government must also provide the CMA with the resources and staffing to undertake this case to ensure that it can dedicate the necessary resources to this work whilst not impacting the pre-existing work it is currently undertaking.* (Paragraph 111)

11. The Government must make sure that UK law is not enabling the outcome of market dominance. This means that independent labels must be supported to challenge the majors' dominance and creators must be empowered to offset the disparity in negotiating power when signing with music companies. *The Government should expand support for the Music Export Growth Scheme to allow British music companies to compete with the multinational majors and provide the resources needed for them to survive and thrive in export markets. This scheme must be appropriately targeted at independent British companies. To prevent the further acquisition of successful rights by the majors and ensure greater competition, the Government and BPI should also place clauses in grant funding awards that a company or artists' rights cannot be acquired by the major music companies for a certain period of time. Moreover, the Government should bring forward proposals for a focused fiscal incentive for the independent music sector, similar to that which exists in TV, animation, film, theatre and gaming.* (Paragraph 122)

12. *We recommend that the Government concurrently expand creator rights by introducing a right to recapture works and a right to contract adjustment where an artist's royalties are disproportionately low compared to the success of their music into the Copyright, Designs and Patents Act 1988. These rights already exist elsewhere, such as in the United States, Germany and the Netherlands, and would give creators greater leverage when negotiation contracts with music companies. We suggest that the right to recapture should occur after a period of twenty years, which is longer than the periods where many labels write off bad debt but short enough to occur within an artist's career. This would create a more dynamic market for rights and allow successful artists to go to the market to negotiate better terms for their rights. The right to contract readjustment should similarly be implemented as soon as practically possible to ensure that rights for UK creators do not fall behind rights for European creators.* (Paragraph 123)

13. Despite the general consensus that direct licensing between the record industry and streaming services is positive, there are ongoing concerns about the majors'

position in negotiation, which allows them to benefit at the expense of independent labels and self-releasing artists, particularly regarding playlisting. This is further evidence that a referral to the CMA is needed (as recommended in paragraph 111). (Paragraph 129)

14. As long as the major record labels also dominate the market for song rights through their publishing operations, it is hard to see whether the song will be valued fairly as a result. It is well-evidenced that redressing the disparities in relative value between the song and recording has occurred infrequently in the last few decades. Whilst the major music groups dominate music publishing, there is little incentive for their music publishing interests to redress the devaluation of the song relative to the recording. In its reference to the CMA (as recommended in paragraph 111), the Government should urge the CMA to consider how the majors' position in both recording and publishing has influenced the relative value of song and recording rights. *In its reference to the CMA (as recommended in paragraph 111), the Government should urge the CMA to consider how the majors' position in both recording and publishing has influenced the relative value of song and recording rights.* (Paragraph 134)

15. Artists and their representatives face a systemic lack of transparency from both music companies and the streaming services that license their works. This exacerbates the inequities of creator remuneration by creating information asymmetries and preventing them from undertaking their right to audit. Creators and their representatives have a right to know about the terms on which their works are exploited and verify the outcome of these agreements. It is also deeply concerning that this norm is challenging academic research efforts, including and in particular taxpayer-funded projects, despite efforts to positively engage music companies and streaming services in this endeavour. (Paragraph 139)

16. The Government has repeatedly told us that it will not implement in UK law provisions akin to those established by the Directive on Copyright in the Digital Single Market. We accept that the Directive is not a silver bullet to the music industry's problems, but it is a step in the right direction in terms of protections and rights for rightsholders. *The Government should ensure that creators in the UK are not worse served that they would have been had the UK remained in the European Union. As a minimum, the Government should introduce a right for performers (or their representatives) to have sight of the terms of deals where their works are licensed, on request and subject to non-disclosure. There should also be notification requirements, requiring relevant parties to provide clear information and guidance to creators about the terms and structures of every deal where creators' works are licensed, sold or otherwise made available, and the means and methods by which monies that are being distributed to them are calculated, reported and transferred.* (Paragraph 142)

The music streaming market

17. Music curators play an important role in the discovery and consumption of digital music and are influential in how creators are remunerated. It is, therefore, unsurprising that music creators are putting more resources into catching the eye of these curators. *Where curators are paid or receive benefits in kind for playlisting,*

we recommend that they are subject to a code of practice developed by the Advertising Standards Authority, similar to social media influencers, to ensure that the decisions they make are transparent and ethical. (Paragraph 151)

18. Algorithms are fundamental to the operation of streaming services. However, many questions remain about how they influence music consumption and how much oversight exists. *The Government should commission research into the impact of streaming services' algorithms on music consumption, including where creators are forgoing royalty payments in exchange for algorithmic promotion.* (Paragraph 153)

19. The market for streaming services itself is fiercely competitive. However, there is the potential that companies may leverage other aspects of their business or elsewise use vertical integrations to gain a competitive advantage; indeed, some jurisdictions have considered that this is already happening in some areas. It is important that the UK has a regulatory regime to respond to these challenges. We are encouraged that the CMA has already launched its Digital Markets Unit, which is undertaking important work in this area within the scope of the CMA's current powers, but to ensure proper compliance the DMU needs to be put on a statutory basis as soon as possible. *The Government should launch its consultation on the new pro-competition regime for digital markets by the time it has responded to this Report and commit to a reasonable timeframe (to which it can be held accountable) for when it reasonably expects legislation to be brought forward thereafter.* (Paragraph 159)

20. *The Government must ensure that the challenges posed by music streaming to the UK's prominence regime are duly considered.* (Paragraph 160)

21. Safe harbour provisions that have been transposed into UK law have profoundly impacted the market for digital music consumption. YouTube's dominance of the music streaming market shows that the market has tipped. Safe harbour gives services that host user-generated content (UGC) a competitive advantage over other services and undermine the music industry's leverage in licensing negotiations by providing UGC-hosting services with broad limitations of liability. This has suppressed the value of the digital music market both in real and absolute terms even as these services generate multi-billion-dollar advertising revenues. (Paragraph 171)

22. We note that the CMA has developed a pro-competition framework for tech companies with 'strategic market status' that dominate digital markets. *The CMA should consider exploring designating YouTube's streaming services as having strategic market status to encourage competition with its products.* (Paragraph 172)

23. As we have acknowledged, the Government has repeatedly told us that it will not implement the Directive on Copyright in the Digital Single Market. However, to ensure that music creators and companies prosper in the globally important UK music market, the Government must provide protections for rightsholders that are at least as robust as those provided in other jurisdictions. *As a priority, the Government should introduce robust and legally enforceable obligations to normalise licensing arrangements for UGC-hosting services, to address the market distortions and the music streaming 'value gap'. It must ensure that these obligations are proportionate so as to apply to the dominant players like YouTube but does not discourage new entrants to the market. It must also ensure that existing obligations*

are being enforced as appropriate, and detail in its Response how it plans to address the recording industry's concerns regarding the enforcement of existing 'know your business customer' obligations. (Paragraph 178)

24. The debate between the predominant pro-rata payment model and alternative methodologies such as user-centric has been compelling. It is positive that new services are inventing new and creative ways to address creators' and consumers' concerns about the fairness and transparency of creator remuneration from streaming. We are concerned, however, that current contractual agreements between the major music companies and streaming services have the potential to stifle further innovation if they are misused. *The CMA should consider in its case (recommended in paragraph 111) whether these agreements have the potential to (or indeed have already) prevented experimentation and innovation by streaming services.* (Paragraph 183)

25. As technology continues to evolve, the Government must ensure that copyright law is fit for purpose and that appropriate mechanisms are in place for rightsholders to enforce their rights. The Intellectual Property Office must not be a passive witness but an active player, particularly in areas of systemic contestation between rightsholders or where rightsholders believe that their rights are being systematically infringed. *We recommend that the Government set out a clear position on livestreaming, both regarding remuneration of rightsholders and the live sector and explain what actions it is taking to support rightsholders in tackling copyright infringement. It should also explain what it and the IPO are doing to identify emerging threats to rightsholders*

enabled or caused by new technologies. (Paragraph 18

Formal minutes

Thursday 8 July 2021

Members present:

Julian Knight, in the Chair

Kevin Brennan

Steve Brine

Julie Elliott

Rt Hon Damian Green

Rt Hon Damian Hinds

Heather Wheeler

Draft Report (*Economics of music streaming*), proposed by the Chair, brought up and read.

Ordered, That the draft Report be read a second time, paragraph by paragraph.

Paragraphs 1 to 187 read and agreed to.

Summary agreed to.

Annexes agreed to.

Resolved, That the Report be the Second Report of the Committee to the House.

Ordered, That the Chair make the Report to the House

Ordered, That embargoed copies of the Report be made available, in accordance with the provisions of Standing Order No.134.

Adjournment

Adjourned till Tuesday 13 July 2021 at 9.30 am

Witnesses

The following witnesses gave evidence. Transcripts can be viewed on the inquiry publications page of the Committee's website.

Tuesday 24 November 2020

Tom Frederikse, Partner, Clintons Solicitors; **Tom Gray**, Founder, #BrokenRecord Campaign, and vocalist, guitarist and songwriter, Gomez; **Colin Young**, streaming auditor and accountant, CC Young & Co — Q1–69

Guy Garvey, Singer and songwriter, Elbow, and BBC 6 Music presenter; **Ed O'Brien**, Guitarist, Radiohead, songwriter, singer and musician; **Nadine Shah**, Singer, songwriter and musician — Q70–110

Tuesday 8 December 2020

Maria Forte, Managing Director, Maria Forte Music Services Ltd; **Kwame Kwaten**, Manager, record producer and owner, Ferocious Talent; **José Luis Sevillano**, Director General, Artistas Intérpretes o Ejecutantes, Entidad de Gestión de Derechos de Propiedad Intelectual (AIE) — Q111–164

Fiona Bevan, Singer and songwriter; **Soweto Kinch**, Jazz alto-saxophonist and rapper; **Nile Rodgers**, Songwriter, producer and artist — Q165–202

Tuesday 19 January 2021

Peter Leathem, Chief Executive, Phonographic Performance Ltd; **Andrea Martin**, Chief Executive, PRS for Music — Q203–237

Tony Harlow, Chief Executive, Warner Music UK; **Jason Iley**, Chairman and Chief Executive, Sony Music UK & Ireland; **David Joseph**, Chairman and Chief Executive, Universal Music UK & Ireland — Q238–330

Thursday 4 February 2021

Yvette Griffith, Co-Chief Executive and Executive Director, Jazz Re:freshed; **Paul Pacifico**, Chief Executive, Association of Independent Music; **Rupert Skellett**, General Counsel, Beggars Group — Q331–416

Wednesday 10 February 2021

Roberto Neri, Chair, Music Publishers Association; **Geoff Taylor**, Chief Executive, BPI — Q417–489

Graham Davies, Chief Executive, Ivors Academy; **Horace Trubridge**, General Secretary, Musicians' Union — Q490–527

Steve Bené, General Counsel, Twitch; **Raoul Chatterjee**, Vice President for Content Partnerships, Soundcloud; **Katherine Oyama**, Director, Government Affairs & Public Policy, YouTube — Q528–579

Tuesday 23 February 2021

Paul Firth, Director of International Music, Amazon; **Horacio Gutierrez**, Head of Global Affairs and Chief Legal Officer, Spotify; **Elena Segal**, Global Senior Director of Music Publishing, Apple Inc — Q580–709

Monday 22 March 2021

Caroline Dinenage MP, Minister for Digital and Culture, Department for Digital, Culture, Media and Sport; **Amanda Solloway MP**, Minister for Science, Research and Innovation, Department for Business, Energy and Industrial Strategy; **Robert Specterman-Green**, Director of Media and Creative Industries, Department for Digital, Culture, Media and Sport; **Tim Moss**, Chief Executive, Intellectual Property Office Q710–787

Published written evidence

The following written evidence was received and can be viewed on the inquiry publications page of the Committee's website.

EMS numbers are generated by the evidence processing system and so may not be complete.

1 #BrokenRecord Campaign (EMS0218)

2 #PayPerformers (EMS0064)

3 Adams, Neil; Sarah Ramage; Caleb Evans; and Paul Deacon (EMS0225)

4 AEPO-ARTIS (EMS0051)

5 All Party Parliamentary Jazz Appreciation Group (EMS0161)

6 Amazon (EMS0289)

7 Anderson, Isaac (EMS0101)

8 Anonymous, (EMS0199)

9 Antal, Daniel; Amelia Fletcher; and Peter Ormosi (EMS0286)

10 Apple (EMS0290)

11 Archer, Iain (EMS0190)

12 Arqiva (EMS0116)

13 Artistas Intérpretes o Ejecutantes, Entidad de Gestión de Derechos de Propiedad Intelectual (AIE) (EMS0133)

14 Association of Independent Music (EMS0285)

15 Association of Independent Music (EMS0271)

16 Association of Independent Music (EMS0157)

17 BBC (EMS0227)

18 BECS (EMS0113)

19 BMG (EMS0207)

20 BPI (EMS0282)

21 BPI (EMS0208)

22 Baron, Mr Chris (EMS0222)

23 Basho Records (EMS0148)

24 Beggars Group Limited (EMS0047)

25 Bennett, Gordon (EMS0245)

26 Bird, Henry (EMS0132)

27 Blakey, Mr Colin (EMS0255)

28 Bolt, Miss Rachel (Freelance viola player, Rachel S Bolt Ltd) (EMS0070)

29 Bonello, Dr Gareth (EMS0069)

30 Boorman, Mr Phil (EMS0024)

31 Bosher, Dr Hayleigh (EMS0254)

32 Bourne, Robert (EMS0291)

33 Bournemouth University (EMS0048)

34 Brassroots (EMS0252)

35 British Copyright Council (EMS0139)

36 Brocklebank, MR Aubrey (EMS0211)

37 Bucknall, Mr Francis (EMS0247)

38 Bucks Music Group Limited (EMS0269)

39 CC Young & Co Limited (EMS0077)

40 CMU (EMS0183)

41 CREATe: UK Copyright and Creative Economy Centre, University of Glasgow (EMS0189)

42 Cain, Marcus (EMS0049)

43 Cameron, Mr Iain (EMS0015)

44 Castle, Christian (EMS0165)

45 Clarke, Ms Josienne (EMS0159)

46 Clews, David (EMS0089)

47 Cognizant (EMS0134)

48 Coldea, Horatiu (EMS0263)

49 Council of Music Makers; Featured Artists Coalition (FAC); Ivors Academy; Music Managers' Forum (MMF); Music Producers' Guild (MPG); and Musicians' Union (MU) (EMS0172)

50 Creators' Rights Alliance (EMS0187)

51 Cronshaw, Andrew (EMS0035)

52 DIUO (EMS0074)

53 Dalton, Mr Morgan (EMS0060)

54 Davies-Patrick, Mr Nigel (EMS0005)

55 Davis, Mr Snake (EMS0082)

56 Dean-Revington, Mr AJ (EMS0192)

57 Deegan, Rik (EMS0117)

58 Department for Business, Energy and Industrial Strategy (EMS0288)

59 Department for Digital, Culture, Media and Sport (EMS0078)

60 Digital Media Association (DiMA) (EMS0233)

61 Donovan, Florence (EMS0065)

62 Entertainment Retailers Association (EMS0081)

63 Equity (EMS0173)

64 Farris, Mr Steve (EMS0131)

65 Fenn, Mr Adam (EMS0180)

66 Firman, Mr Robin (EMS0017)

67 Flavell, Mr Roger (EMS0042)

68 Foakes, Mr Kevin (EMS0240)

69 Foster, Miss Kadian (EMS0168)

70 Fran, Mr (EMS0105)
71 Garratt, Mr Loz (EMS0258)
72 Garrett, Dr Steve (EMS0045)
73 Garvey, Mr Guy (EMS0138)
74 Gavan, Ali (EMS0026)
75 Generator North East Ltd (EMS0171)
76 Green, Martin (EMS0127)
77 Guirey, Mr Sagat (EMS0220)
78 HHMUSIC LLP (EMS0248)
79 Hamer-Hodges, Mr Anthony (EMS0206)
80 Hamilton, (EMS0262)
81 Harwood, Mr Chris; Angus Mansell; Lewis Harwood; and Joe Jenner (EMS0224)
82 Haslam, Mr Elliott (EMS0151)
83 Henry, Mr Julian (EMS0137)
84 Herbert, Dr Matthew (EMS0097)
85 Herlihy, MR Gavin (EMS0001)
86 Hesmondhalgh, Professor David (EMS0143)
87 Hickman, Mr Matthew (EMS0100)
88 Hipgnosis Songs Fund Limited (EMS0237)
89 Hughes, Ed (EMS0033)
90 Humphreys, Fenella (EMS0124)
91 IFPI (EMS0209)
92 IMPF, Independent Music Publishers International Forum (EMS0121)
93 International Federations of Musicians (FIM) (EMS0025)
94 Incorporated Society of Musicians (EMS0223)
95 Internet Association (EMS0164)
96 Irish Music Rights Organisation CLG (EMS0162)
97 Jana, Ashley (EMS0011)
98 Jones, Mr Daniel (EMS0261)
99 Julian, Oliver (EMS0219)
100 Just East of Jazz (EMS0079)
101 Kirkland, Ms Wendy (EMS0037)
102 Lasky, Simon (EMS0274)
103 Leaone, (EMS0054)
104 Lee, Mr Mark Christopher (EMS0241)
105 Lee, Mr Wayne (EMS0167)
106 Lindvall, Helienne (EMS0112)
107 MIDiA Research (EMS0073)

108 MN2S Label Services (EMS0055)
109 MacRae, Stuart (EMS0053)
110 Madness (EMS0174)
111 Magill, Mr Joshua (EMS0153)
112 Mathers, Dave (EMS0092)
113 McCall, Mr Ian (EMS0006)
114 McCambridge, Mr Mark (EMS0111)
115 McConville, Mr Davo (Musician, Freelance) (EMS0214)
116 McNaughton, Drew (EMS0099)
117 Medcraft, Tim (EMS0266)
118 Media IP Rights Ltd (EMS0103)
119 Menzies, Mr Mark (EMS0020)
120 Mike Purton Recording Services (EMS0056)
121 Millwood, Dr Sasha Valeri (EMS0275)
122 Mitchell, Madeleine (EMS0106)
123 Mogis, Dr Jay (EMS0256)
124 Moore, Mr Garret (EMS0108)
125 Murphy (EMS0268)
126 Music Managers Forum; and Featured Artists Coalition (EMS0128)
127 Music Producers Guild (EMS0202)
128 Musicians' Union (EMS0257)
129 Musicians' Union (EMS0080)
130 NMC Recordings Limited (EMS0251)
131 Napier, MR Findlay (EMS0016)
132 Neale, Anna (EMS0058)
133 Neilson, Mr Isaac (EMS0201)
134 Nelson, Dr Simon (EMS0023)
135 Newman, Joe (EMS0083)
136 Ninja Tune Limited (EMS0063)
137 Noble, Allison (EMS0115)
138 NutCase Theatre Limited (EMS0260)
139 OCL (One Click Licence Ltd) (EMS0043)
140 One Media iP PLC (EMS0182)
141 Ormosi, Dr Peter; and Dr Franco Mariuzzo (EMS0076)
142 Oxer, MR Peter (EMS0031)
143 PRS for Music (EMS0158)
144 Pace, Mr Elio (EMS0175)
145 Page, Mr Will (EMS0166)

146 Parker, Mr Andrew (EMS0095)

147 Parker, Mr Niall (EMS0267)

148 Patreon, Inc. (EMS0110)

149 Peixe, Igor (EMS0059)

150 People Music Promotions (EMS0052)

151 Phonographic Performance Ltd (EMS0292)

152 Phonographic Performance Ltd (EMS0278)

153 Pure Records (Yorkshire) Ltd (EMS0210)

154 Rees, Mr Huw (EMS0004)

155 Reith, Ms Angela (EMS0029)

156 Resonate Co-operative (Resonate (Beyond Streaming) Ltd) (EMS0169)

157 Richards, Tim (EMS0221)

158 Rixhon, Mr Philippe (EMS0146)

159 Robertson, Mr Gordon (EMS0216)

160 Ruddy, Andy (EMS0094)

161 SCRIPT (a law and technology research centre based at Edinburgh Law School within the University of Edinburgh) (EMS0205)

162 Sagna, Ibrahima (EMS0039)

163 Scottish Trades Union Congress (STUC) (EMS0231)

164 Seamless Entertainment (EMS0242)

165 Searle, Dr Nicola (EMS0041)

166 Shaw, Malcolm (EMS0246)

167 Sheehan, Ms Renee (EMS0195)

168 Shilling, Mr Lindsay (EMS0044)

169 Sinclair, Dr. Gary (EMS0019)

170 Sizer, Ben (EMS0050)

171 Slavid, Peter (EMS0002)

172 Smith, Mr Bill (EMS0084)

173 SonicData Limited (EMS0283)

174 Sonstream Ltd (EMS0154)

175 Sony Music UK & Ireland (EMS0280)

176 SoundSurf (EMS0007)

177 Soundtrack Your Brand (EMS0228)

178 Spotify (EMS0287)

179 Starkey, Mr Jonathan (EMS0142)

180 Sun, Dr Hyojung; Prof. David Hesmondhalgh; and Dr Richard Osborne (EMS0149)

181 Susman, Verity (EMS0136)

182 Sweetinburgh, Mr Joe (EMS0243)

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183 Sweetinburgh, Mr Joe (EMS0239)
184 Taylor, Ms Kirstian (EMS0198)
185 techUK (EMS0276)
186 Thacker, Simon (EMS0040)
187 The F-List for Music CIC (EMS0119)
188 The Ivors Academy of Music Creators (EMS0277)
189 The Ivors Academy of Music Creators (EMS0197)
190 The Music Publishers Association (EMS0179)
191 The state51 Music Group (EMS0203)
192 Tombling, Mr Chris (EMS0093)
193 Tong, Matthew (EMS0155)
194 Tru Thoughts (EMS0091)
195 Tyree Records LTD (EMS0181)
196 UK Music (EMS0188)
197 Universal Music UK & Ireland (EMS0281)
198 Verity, Thomas (EMS0152)
199 Warner Music UK (EMS0284)
200 Warner Music UK (EMS0279)
201 Wayte, Dr Gavin (EMS0200)
202 Webster, Jon (EMS0102)
203 West, Mr Jamie (EMS0250)
204 Whiteside, Mr Matthew (EMS0022)
205 Whitten, Mr Chris (EMS0096)
206 Wierzbicka, Miss Natalia (EMS0160)
207 Wilkinson, Tim (EMS0259)
208 Williams, Luke (EMS0191)
209 Willis (EMS0186)
210 Willowhayne Records Ltd (EMS0067)
211 Woodroffe, Pete (EMS0018)
212 Woollcombe, Mr John (EMS0185)
213 YouTube (EMS0144)
214 Young, Mr John (EMS0087)

List of Reports from the Committee during the current Parliament

All publications from the Committee are available on the publications page of the Committee's website.

Session 2021–22

Number	Title	Reference
1st	The future of UK music festivals	HC 49

Session 2019–21

Number	Title	Reference
1st	The Covid-19 crisis and charities	HC 281
2nd	Misinformation in the Covid-19 Infodemic	HC 234
3rd	Impact of Covid-19 on DCMS sectors: First Report	HC 291
4th	Broadband and the road to 5G	HC 153
5th	Pre-appointment hearing for Chair of the BBC	HC 1119
6th	The future of public service broadcasting	HC 156
1st Special	BBC Annual Report and Accounts 2018–19: TV licences for over 75s Government and the BBC's Responses to the Committee's Sixteenth Report of Session 2017–19	HC 98
2nd Special	The Covid-19 crisis and charities: Government Response to the Committee's First Report	HC 438
3rd Special	Impact of Covid-19 on DCMS sectors: First Report: Government Response to Committee's Third Report	HC 885
4th Special	Misinformation in the Covid-19 Infodemic: Government Response to the Committee's Second Report	HC 894

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Signed: /s/ Benjamin K Semel