SIRIUS XM RADIO INC.

(Exact name of company as specified in its charter)

ANNUAL REPORT

For the Fiscal Year Ended December 31, 2021

Explanatory Note

Sirius XM Radio Inc. ("Sirius XM") is furnishing this Annual Report for the fiscal year ended December 31, 2021 (the "Annual Report") in order to comply with the reporting obligations in the indentures governing its 3.125% Senior Notes due 2026, 5.00% Senior Notes due 2027, 4.00% Senior Notes due 2028, 5.50% Senior Notes due 2029, 4.125% Senior Notes due 2030 and 3.875% Senior Notes due 2031 (collectively, the "Notes").

Before making any investment decisions in Sirius XM or Sirius XM Holdings Inc. ("Holdings"), investors should read the following consolidated financial statements and Management's Discussion and Analysis of Financial Condition and Results of Operations ("MD&A") of Sirius XM in conjunction with Holdings' Annual Report on Form 10-K for the fiscal year ended December 31, 2021 and Holdings' other reports available through the Securities and Exchange Commission website at www.sec.gov and our website at www.siriusxm.com, and with Sirius XM's other reports available through our website. Holdings' Annual Report on Form 10-K for the fiscal year ended December 31, 2021 is hereby incorporated by reference except for Section 9A and Exhibits 31.1, 31.2, 32.1 and 32.2 contained therein. Sirius XM is a wholly-owned subsidiary of Holdings and Holdings has no operations independent of Sirius XM. Refer to Note 1 to the consolidated financial statements included within this Annual Report for an explanation of differences between Sirius XM and Holdings' consolidated financial statements.

The terms "Sirius XM," "we," "us," "our," and the "Company," as used herein and unless otherwise stated or indicated by context, refer to 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.

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MANAGEMENT'S DISCUSSION AND ANALYSIS OF FINANCIAL CONDITION AND RESULTS OF OPERATIONS

All amounts referenced in this discussion and analysis 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 and with Holdings' Annual Report on Form 10-K for the year ended December 31, 2021.

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 December 31, 2021, our Sirius XM business had approximately 34.0 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'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, 2021, Pandora had approximately 6.4 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. 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, 2021, our Pandora business had approximately 52.3 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 music 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 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. During the year ended December 31, 2021, Stitcher did not achieve certain financial metrics, as a result of which we do not expect to pay to Scripps the 2021 portion of the contingent consideration associated with the transaction. During the year ended December 31, 2021, we recognized a $17 benefit related to the change in fair value of the 2021 portion of the contingent consideration. 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.

Liberty Media

As of December 31, 2021, Liberty Media beneficially owned, directly and indirectly, approximately 81% of the outstanding shares of Holdings' common stock. As a result, Holdings is 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 year ended December 31, 2021 compared with the year ended December 31, 2020. Refer to our Annual Report for the year ended December 31, 2020 available on our website at https://investor.siriusxm.com/investor-overview/#dividend-tab2 for our results of operations for the year ended December 31, 2020 compared with the year ended December 31, 2019. 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,		2021 vs 2020 Change	
	2021	2020	Amount	%
Revenue				
Sirius XM:				
Subscriber revenue	$ 6,084	$ 5,857	$ 227	4 %
Advertising revenue	188	157	31	20 %
Equipment revenue	201	173	28	16 %
Other revenue	151	155	(4)	(3)%
Total Sirius XM revenue	6,624	6,342	282	4 %
Pandora:				
Subscriber revenue	530	515	15	3 %
Advertising revenue	1,542	1,183	359	30 %
Total Pandora revenue	2,072	1,698	374	22 %
Total consolidated revenue	8,696	8,040	656	8 %
Cost of services				
Sirius XM:				
Revenue share and royalties	1,532	1,484	48	3 %
Programming and content	511	449	62	14 %
Customer service and billing	415	394	21	5 %
Transmission	159	123	36	29 %
Cost of equipment	18	19	(1)	(5)%
Total Sirius XM cost of services	2,635	2,469	166	7 %
Pandora:				
Revenue share and royalties	1,140	937	203	22 %
Programming and content	48	32	16	50 %
Customer service and billing	86	87	(1)	(1)%
Transmission	59	54	5	9 %
Total Pandora cost of services	1,333	1,110	223	20 %
Total consolidated cost of services	3,968	3,579	389	11 %
Subscriber acquisition costs	325	362	(37)	(10)%
Sales and marketing	1,056	957	99	10 %
Engineering, design and development	265	263	2	1 %
General and administrative	514	511	3	1 %
Depreciation and amortization	533	506	27	5 %
Impairment, restructuring and acquisition costs	20	1,004	(984)	(98)%
Total operating expenses	6,681	7,182	(501)	(7)%
Income from operations	2,015	858	1,157	135 %
Other (expense) income:				
Interest expense	(407)	(387)	(20)	(5)%
Loss on extinguishment of debt	(83)	(40)	(43)	(108)%
Other income	4	29	(25)	(86)%
Total other (expense) income	(486)	(398)	(88)	(22)%
Income before income taxes	1,529	460	1,069	232 %
Income tax expense	(212)	(301)	89	30 %
Net income	$ 1,317	$ 159	$ 1,158	728 %

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 years ended December 31, 2021 and 2020, subscriber revenue was $6,084 and $5,857, respectively, an increase of 4%, or $227. The increase was primarily driven by growth in our ARPU of 5% and in our self-pay subscriber base of 4% 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 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 years ended December 31, 2021 and 2020, advertising revenue was $188 and $157, respectively, an increase of 20%, or $31. The increase was due to higher advertising primarily on news and sports channels as we continue to recover to pre-COVID-19 levels.

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 years ended December 31, 2021 and 2020, equipment revenue was $201 and $173, respectively, an increase of 16%, or $28. The increase was driven by higher royalty revenue from new vehicle production as automakers pushed to get back to pre-COVID-19 manufacturing levels during the first half of 2021 and due to our transition to a new generation of chipsets, partially offset by semiconductor supply shortages in the second half of 2021.

We expect equipment revenue to decrease as a result of the semiconductor supply shortages.

Sirius XM Other Revenue includes service and advisory revenue from Sirius XM Canada, revenue from our connected vehicle services, and ancillary revenues.

For the years ended December 31, 2021 and 2020, other revenue was $151 and $155, respectively, a decrease of 3%, or $4. The decrease was primarily driven by lower revenue generated by rental car arrangements.

We expect other revenue to decrease as revenue generated from our connected vehicle services declines, partially offset by an anticipated growth in royalties from Sirius XM Canada.

Pandora Revenue

Pandora Subscriber Revenue includes fees charged for Pandora Plus, Pandora Premium, Stitcher and Simplecast subscriptions.

For the years ended December 31, 2021 and 2020, Pandora subscriber revenue was $530 and $515, respectively, an increase of 3%, or $15. The increase was primarily driven by the inclusion of Stitcher during the full year 2021 as well as an increase of 3% in average subscribers from 2020.

We expect Pandora subscriber revenues to decrease as our Pandora subscriber base declines.

Pandora Advertising Revenue is generated primarily from audio, display and video advertising from on-platform and off-platform advertising.

For the years ended December 31, 2021 and 2020, Pandora advertising revenue was $1,542 and $1,183, respectively, an increase of 30%, or $359. The increase was primarily driven by strong monetization of on platform programming to $102.74 per thousand hours, and higher off-platform revenue as well as a full year of Stitcher revenue.

We expect Pandora advertising revenue to increase due to our off-platform advertising opportunities and the growth of Stitcher.

Total Consolidated Revenue

Total Consolidated Revenue for the years ended December 31, 2021 and 2020, was $8,696 and $8,040, respectively, an increase of 8%, or $656.

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 years ended December 31, 2021 and 2020, revenue share and royalties were $1,532 and $1,484, respectively, an increase of 3%, or $48, but decreased as a percentage of total Sirius XM revenue. The increase was 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 years ended December 31, 2021 and 2020, programming and content expenses were $511 and $449, respectively, an increase of 14%, or $62, and increased as a percentage of total Sirius XM revenue. The increase was 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 years ended December 31, 2021 and 2020, customer service and billing expenses were $415 and $394, respectively, an increase of 5%, or $21, and increased as a percentage of total Sirius XM revenue. The increase was driven by higher transaction costs, consulting, and personnel-related cost; partially offset by lower bad debt expense and lower call center 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 and 360L streaming and connected vehicle services.

For the years ended December 31, 2021 and 2020, transmission expenses were $159 and $123, respectively, an increase of 29%, or $36, and increased as a percentage of total Sirius XM revenue. The increase was primarily driven by higher costs associated with cloud hosting, wireless connectivity for 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 rise 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 the years ended December 31, 2021 and 2020, cost of equipment was $18 and $19, respectively, a decrease of 5%, or $1, and decreased as a percentage of equipment revenue. The decrease was primarily due to lower direct sales to customers.

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 years ended December 31, 2021 and 2020, revenue share and royalties were $1,140 and $937, respectively, an increase of 22%, or $203, but remained flat as a percentage of total Pandora revenue. The increase was primarily due to higher royalty rates associated with 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 years ended December 31, 2021 and 2020, programming and content expenses were $48 and $32, respectively, an increase of 50%, or $16, and increased as a percentage of total Pandora revenue. The increase was primarily attributable to additional live events in 2021, higher license costs, and personnel-related costs driven by the inclusion of Stitcher.

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.

For the years ended December 31, 2021 and 2020, customer service and billing expenses were $86 and $87, respectively, a decrease of 1%, or $1, and decreased as a percentage of total Pandora revenue. The decrease was primarily driven by lower bad debt expense, partially offset by higher transaction fees.

We expect our Pandora customer service and billing costs to decrease as our Pandora subscriber base declines and mobile app commissions fall.

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 years ended December 31, 2021 and 2020, transmission expenses were $59 and $54, respectively, an increase of 9%, or $5, but decreased as a percentage of total Pandora revenue. The increase was primarily driven by higher streaming costs.

We expect our Pandora transmission costs to fluctuate primarily as a result of 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 years ended December 31, 2021 and 2020, subscriber acquisition costs were $325 and $362, respectively, a decrease of 10%, or $37, and decreased as a percentage of total revenue. The decrease was driven by lower subsidies from contract improvements with certain automakers as well as lower costs resulting from the semiconductor supply shortages during 2021, partially offset by slightly higher OEM installations.

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 years ended December 31, 2021 and 2020, sales and marketing expenses were $1,056 and $957, respectively, an increase of 10%, or $99, and increased as a percentage of total revenue. The increase was primarily due to higher brand media, streaming and trial-related direct marketing costs 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 the design and development costs to incorporate Sirius XM radios into new vehicles manufactured by automakers.

For the years ended December 31, 2021 and 2020, engineering, design and development expenses were $265 and $263, respectively, an increase of 1%, or $2, and decreased as a percentage of total revenue. The increase was driven primarily by higher personnel-related costs, and partially offset by lower research and development 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 years ended December 31, 2021 and 2020, general and administrative expenses were $514 and $511, respectively, an increase of 1%, or $3, and decreased as a percentage of total revenue. The increase was primarily driven by higher personnel-related, consulting and technology related costs, partially offset by lower contributions as a result of a $25 donor advised fund created in 2020.

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.

For the years ended December 31, 2021 and 2020, depreciation and amortization expense was $533 and $506, respectively, an increase of 5%, or $27, and decreased as a percentage of total revenue. The increase was driven by the addition of software that was developed.

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, restructuring expenses associated with the abandonment of certain leased office spaces and acquisition costs.

For the years ended December 31, 2021 and 2020, impairment, restructuring, and acquisition costs were $20 and $1,004, respectively. During 2021, we recorded restructuring costs of $25 resulting from the termination of leased office space and $12 related to acquisition costs, partially offset by the reversal of a liability related to the Stitcher acquisition. During 2020, we recorded a goodwill impairment charge of $956 to reflect the carrying amount of the Pandora goodwill, an impairment charge of $20 to write down the carrying value of our Pandora trademark, costs of $24 associated with the termination of the Automatic service and costs associated with the acquisition of Simplecast.

Other Income (Expense)

Interest Expense includes interest on outstanding debt.

For the years ended December 31, 2021 and 2020, interest expense was $407 and $387, respectively, an increase of 5%, or $20. The increase was primarily driven by a higher average outstanding debt balance as well as lower capitalized interest, partially offset by lower interest rates.

Loss on Extinguishment of Debt includes losses incurred as a result of the redemption of certain debt.

For the years ended December 31, 2021 and 2020, loss on extinguishment of debt was $83 and $40, respectively. The loss on extinguishment of debt recorded in 2021 was due to the redemption of $1,000 principal amount of Sirius XM's 3.875% Senior Notes due 2022, $1,500 principal amount of Sirius XM's 4.625% Senior Notes due 2024, and $1,000 principal amount of Sirius XM's 5.375% Senior Notes due 2026. 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.

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 years ended December 31, 2021 and 2020, other income was $4 and $29, respectively. Other income for the year ended December 31, 2021 was primarily driven by interest earned on our loan to Sirius XM Canada, partially offset by a loss on the fair value of Pandora's 2023 Notes of $5. Other income for the year ended December 31, 2020 was driven by a gain on the fair value of Pandora's 2023 Notes of $23 and 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 years ended December 31, 2021 and 2020, income tax expense was $212 and $301, respectively, and our effective tax rate was 13.9% and 65.4%, respectively.

Our effective tax rate of 13.9% for the year ended December 31, 2021 was primarily impacted by settlements with various states as well as a benefit related to research and development and certain other credits, partially offset by federal and state income tax expense. Our effective tax rate of 65.4% 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.

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 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 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, 2021 compared to December 31, 2020. Refer to our Annual Report for the year ended December 31, 2020 available on our website at https://investor.siriusxm.com/investor-overview/#dividend-tab2 for our subscriber balances as of December 31, 2020 compared to December 31, 2019.

	As of December 31,		2021 vs 2020 Change	
(subscribers in thousands)	2021	2020	Amount	%
Sirius XM				
Self-pay subscribers	32,039	30,887	1,152	4 %
Paid promotional subscribers	1,994	3,827	(1,833)	(48)%
Ending subscribers	34,033	34,714	(681)	(2)%
Traffic users	8,568	9,301	(733)	(8)%
Sirius XM Canada subscribers	2,517	2,622	(105)	(4)%
Pandora				
Monthly active users - all services	52,275	58,882	(6,607)	(11)%
Self-pay subscribers	6,324	6,279	45	1 %
Paid promotional subscribers	69	62	7	11 %
Ending subscribers	6,393	6,341	52	1 %

The following table contains our Non-GAAP financial and operating performance measures which are based on our adjusted results of operations for the years ended December 31, 2021 and 2020. Refer to our Annual Report for the year ended December 31, 2020 available on our website at https://investor.siriusxm.com/investor-overview/#dividend-tab2 for our Non-GAAP financial and operating performance measures for the year ended December 31, 2020 compared with the year ended December 31, 2019.

	For the Years Ended December 31,		2021 vs 2020 Change	
(subscribers in thousands)	2021	2020	Amount	%
Sirius XM				
Self-pay subscribers	1,152	909	243	27 %
Paid promotional subscribers	(1,833)	(1,104)	(729)	(66)%
Net additions	(681)	(195)	(486)	(249)%
Weighted average number of subscribers	34,345	34,523	(178)	(1)%
Average self-pay monthly churn	1.6 %	1.7 %	(0.1)%	(6)%
ARPU (1)	$ 14.76	$ 14.10	$ 0.66	5 %
SAC, per installation	$ 12.58	$ 18.65	$ (6.07)	(33)%
Pandora				
Self-pay subscribers	45	114	(69)	(61)%
Paid promotional subscribers	7	13	(6)	(46)%
Net additions	52	127	(75)	(59)%
Weighted average number of subscribers	6,487	6,315	172	3 %
ARPU	$ 6.69	$ 6.76	$ (0.07)	(1)%
Ad supported listener hours (in billions)	11.55	12.50	(0.95)	(8)%
Advertising revenue per thousand listener hours (RPM)	$ 102.74	$ 79.24	$ 23.50	30 %
Licensing costs per thousand listener hours (LPM)	$ 48.63	$ 40.14	$ 8.49	21 %
Licensing costs per paid subscriber (LPU)	$ 4.23	$ 4.14	$ 0.09	2 %
Total Company				
Adjusted EBITDA	$ 2,770	$ 2,575	$ 195	8 %
Free cash flow	$ 1,831	$ 1,660	$ 171	10 %

(1) ARPU for Sirius XM excludes subscriber revenue from our connected vehicle services of $190 and $174 for the years ended December 31, 2021 and 2020, respectively.

Sirius XM

Subscribers. At December 31, 2021, we had approximately 34,033 subscribers, a decrease of approximately 681 subscribers, or 2%, from the approximately 34,714 subscribers as of December 31, 2020. The decrease in total subscribers was due to the decline in paid promotional subscribers, partially offset by growth in our self-pay subscriber base.

For the years ended December 31, 2021 and 2020, net subscriber additions were (681) and (195), respectively, a decline of 249%, or 486. Paid promotional subscribers decreased due to a shift to shorter paid or free trials at certain automakers. Self-pay net additions increased driven by higher new vehicle conversion resulting from vehicle sales growth during the first half of 2021, lower non-pay and voluntary churn, and a shift by automakers to shorter trial periods.

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 for more details.)

For the years ended December 31, 2021 and 2020, our average self-pay monthly churn rate was 1.6% and 1.7%, respectively. The decrease was driven by lower non-pay churn and voluntary 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 for more details.)

For the years ended December 31, 2021 and 2020, ARPU was $14.76 and $14.10, respectively. The increase was driven by an increase in certain subscription rates and the U.S. Music Royalty Fee as well as 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 for more details.)

For the years ended December 31, 2021 and 2020, SAC, per installation, was $12.58 and $18.65, respectively. The decrease was driven by reductions to hardware subsidy rates for certain automakers.

Pandora

Monthly Active Users. At December 31, 2021, Pandora had approximately 52,275 monthly active users, a decrease of 6,607 monthly active users, or 11%, from the 58,882 monthly active users as of December 31, 2020. 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, 2021, Pandora had approximately 6,393 subscribers, an increase of 52, or 1%, from the approximately 6,341 subscribers as of December 31, 2020.

For the years ended December 31, 2021 and 2020, net subscriber additions were 52 and 127, respectively, a decrease of 59%, or 75. Net additions decreased as a result of a decline in trial starts, partially offset by lower churn.

ARPU is defined as average monthly revenue per paid subscriber on our Pandora subscription services. (See the accompanying Glossary for more details.)

For the years ended December 31, 2021 and 2020, ARPU was $6.69 and $6.76, respectively. The decrease in subscriber ARPU was primarily due to a change in 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 years ended December 31, 2021 and 2020, ad supported listener hours was 11.55 billion and 12.50 billion, 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 years ended December 31, 2021 and 2020, RPM was $102.74 and $79.24, respectively. The increase was a result of higher sell-through and pricing increases in advertising implemented by Pandora.

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 years ended December 31, 2021 and 2020, LPM was $48.63 and $40.14, respectively. The increase was primarily driven by higher eligible advertising revenue.

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 years ended December 31, 2021 and 2020, LPU was $4.23 and $4.14, respectively. The increase was due to higher publisher and CRB rates in 2021.

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 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 for a reconciliation to GAAP and for more details.)

For the years ended December 31, 2021 and 2020, adjusted EBITDA was $2,770 and $2,575, respectively, an increase of 8%, or $195. The increase was due to higher advertising and subscriber revenue as well as lower subscriber acquisition costs, partially offset by higher revenue share and royalties, sales and marketing, programming, and personnel-related costs.

Free Cash Flow includes cash provided by operations plus insurance recoveries on our satellites, net of additions to property and equipment, and restricted and other investment activity. (See the accompanying Glossary for a reconciliation to GAAP and for more details.)

For the years ended December 31, 2021 and 2020, free cash flow was $1,831 and $1,660, respectively, an increase of $171, or 10%. The increase was driven by satellite insurance recoveries and growth in cash generated by operations, partially offset by higher spending on property and equipment and a decrease in deferred revenue driven by a shift to shorter term self-pay and trial subscriptions as well as a shift to free trials at certain automakers.

Liquidity and Capital Resources

The following table presents a summary of our cash flow activity for the year ended December 31, 2021 compared with the year ended December 31, 2020. Refer to our Annual Report for the year ended December 31, 2020 available on our website at https://investor.siriusxm.com/investor-overview/#dividend-tab2 for our cash flows for the year ended December 31, 2020 compared with the year ended December 31, 2019.

	For the Years Ended December 31,		
	2021	2020	2021 vs 2020
Net cash provided by operating activities	$ 1,913	$ 1,885	$ 28
Net cash used in investing activities	(200)	(741)	541
Net cash used in financing activities	(1,597)	(1,181)	(416)
Net increase (decrease) in cash, cash equivalents and restricted cash	116	(37)	153
Cash, cash equivalents and restricted cash at beginning of period	83	120	(37)
Cash, cash equivalents and restricted cash at end of period	$ 199	$ 83	$ 116

Cash Flows Provided by Operating Activities

Cash flows provided by operating activities increased by $28 to $1,913 for the year ended December 31, 2021 from $1,885 for the year ended December 31, 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 year ended December 31, 2021 were primarily due to spending for capitalized software and hardware, and to construct a replacement satellite, partially offset by proceeds collected from satellite insurance policies associated with SXM-7. 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 for $28, spending for capitalized software and hardware, and to construct replacement satellites. We spent $238 and $242 on capitalized software and hardware as well as $93 and $57 to construct replacement satellites during the years ended December 31, 2021 and 2020, 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 Holdings' share repurchase program and the payment of cash dividends. Proceeds from long term debt have been used to fund our operations, construct and launch new satellites, fund acquisitions, invest in other infrastructure improvements and purchase shares of Holdings' common stock.

Cash flows used in financing activities in the year ended December 31, 2021 were primarily due to the redemptions of our 3.875% Senior Notes due 2022 for $1,019, 4.625% Senior Notes due 2024 for $1,541 and 5.375% Senior Notes due 2026 for $1,034, the purchase and retirement of shares of Holdings' common stock under Holdings' repurchase program for $1,523, the payment of cash dividends of $268 on Holdings' common stock, and the repayment of borrowings under our Credit Facility of $653; partially offset by the issuance of $2,000 in aggregate principal amount of 4.00% Senior Notes due 2028, $1,000 in aggregate principal amount of the 3.125% Senior Notes due 2026, and $1,500 in aggregate principal amount of the 3.875% Senior Notes due 2031. Cash flows used in financing activities in the year ended December 31, 2020 were primarily due to the redemption of our 4.625% Senior Notes due 2023 in the aggregate amount of $505 and our 5.375% Senior Notes due 2025 in the aggregate amount of $1,033, the purchase and retirement for $1,555 of shares of Holdings' common stock under Holdings' repurchase program and the payment of cash dividends of $237 on Holdings' common stock; 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.

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, 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 Holdings' future stock repurchases, future dividend payments on Holdings' common stock 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.

Holdings' Capital Return Program

As of December 31, 2021, Holdings' board of directors had authorized for repurchase an aggregate of $18,000 of Holdings' common stock. As of December 31, 2021, Holdings' cumulative repurchases since December 2012 under Holdings' stock repurchase program totaled $15,920, and $2,080 remained available for additional repurchases under Holdings' 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 26, 2022, Holdings' board of directors declared a quarterly dividend on Holdings' common stock in the amount of $0.0219615 per share of Holdings' common stock payable on February 25, 2022 to Holdings' stockholders of record as of the close of business on February 11, 2022. Holdings' board of directors expects to declare regular quarterly dividends, in an aggregate annual amount of $0.087846 per share of Holdings' common stock.

On January 31, 2022, Holdings' board of directors declared a special cash dividend on Holdings' common stock in the amount of $0.25 per share of Holdings' common stock payable on February 25, 2022 to Holdings' stockholders of record as of the close of business on February 11, 2022.

Debt Covenants

The indentures governing our senior notes and Pandora's convertible notes and the agreement governing the Credit Facility include restrictive covenants. As of December 31, 2021, we were in compliance with such covenants. For a discussion of our “Debt Covenants,” refer to Note 12 to our consolidated financial statements in this Annual Report.

Off-Balance Sheet Arrangements

We do not have any significant off-balance sheet arrangements other than those disclosed in Note 15 to our consolidated financial statements in this Annual Report 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 consolidated financial statements in this Annual Report.

Related Party Transactions

For a discussion of “Related Party Transactions,” refer to Note 11 to our consolidated financial statements in this Annual Report.

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, 2021, there were no indicators of impairment, and no impairment losses were recorded for goodwill during the year ended December 31, 2021.

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, 2021, there were no indicators of impairment, and no impairment losses were recorded for indefinite-lived assets during the year ended December 31, 2021.

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 DCF 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 four in-orbit XM satellites, XM-3, XM-4, XM-5 and SXM-8. Our XM-3 satellite launched in 2005 reached the end of its depreciable life in 2020 and our XM-4 satellite launched in 2006 reached the end of its depreciable life 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. SXM-7 was launched into a geostationary orbit in December 2020 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 and the asset was fully impaired in 2021. Our SXM-8 satellite was successfully launched into a geostationary orbit on June 6, 2021 and was placed into service on September 8, 2021 following the completion of in-orbit testing. The SXM-8 satellite replaced our XM-3 satellite, which remains available as an in-orbit spare along with XM-5. We have entered into agreements for the design, construction and launch of two satellites, SXM-9 and SXM-10.

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, 2021, we had a valuation allowance of $83 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, 2021, the gross liability for income taxes associated with uncertain tax positions was $179.

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 - for satellite-enabled subscriptions, 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 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,	
	2021	2020
Net income:	$ 1,317	$ 159
Add back items excluded from Adjusted EBITDA:		
Legal settlements and reserves	—	(16)
Impairment, restructuring and acquisition costs	20	1,004
Share-based payment expense (1)	202	223
Depreciation and amortization	533	506
Interest expense	407	387
Loss on extinguishment of debt	83	40
Other income	(4)	(29)
Income tax expense	212	301
Purchase price accounting adjustments:		
Revenues	—	6
Operating expenses	—	(6)
Adjusted EBITDA	$ 2,770	$ 2,575

(1) Allocation of share-based payment expense:

(in millions)	For the Years Ended December 31, 2021	2020
Programming and content	$ 33	$ 32
Customer service and billing	6	6
Transmission	6	6
Sales and marketing	58	68
Engineering, design and development	36	43
General and administrative	63	68
Total share-based payment expense	$ 202	$ 223

Free cash flow - is derived from cash flow provided by operating activities plus insurance recoveries on our satellites, 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, 2021	2020
Cash Flow information		
Net cash provided by operating activities	$ 1,913	$ 1,885
Net cash used in investing activities	(200)	(741)
Net cash used in financing activities	(1,597)	(1,181)
Free Cash Flow		
Net cash provided by operating activities	1,913	1,885
Equity-related transactions for Holdings [(a)]	85	133
Additions to property and equipment	(388)	(350)
Purchases of other investments	(4)	(8)
Satellite insurance recoveries	225	—
Free cash flow	$ 1,831	$ 1,660

(a) Subsequent to our corporate reorganization in November 2013, certain equity-related transactions are reported as related party transactions within our consolidated statements of cash flows. For the year ended December 31, 2021, this included $103 for taxes paid in lieu of shares issued for stock-based compensation, $11 for the change in treasury shares, proceeds of $10 from the exercise of stock options, and deferred equity consideration related to a small acquisition of $(3). For the year ended December 31, 2020, this included payments of $114 for taxes paid in lieu of shares issued for stock-based compensation and $(19) for the change in treasury shares. These equity-related transactions are classified as Cash flows used in financing activities within Holdings' consolidated statements of cash flows, and therefore, are adjusted to reflect free cash flow at Sirius XM.

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,	
	2021	2020
Subscriber acquisition costs, excluding connected vehicle services	$ 325	$ 362
Less: margin from sales of radios and accessories, excluding connected vehicle services	(183)	(154)
	$ 142	$ 208
Installations	11,174	11,091
SAC, per installation [(a)]	$ 12.58	$ 18.65

(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.

Report of Independent Registered Public Accounting Firm

To the Board of Directors
Sirius XM Radio Inc.:

Opinion on the Consolidated Financial Statements

We have audited the accompanying consolidated balance sheets of Sirius XM Radio Inc. and subsidiaries (the Company) as of December 31, 2021 and 2020, the related consolidated statements of comprehensive income, stockholder equity, and cash flows for each of the years in the three-year period ended December 31, 2021, and the related notes (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, 2021 and 2020, and the results of its operations and its cash flows for each of the years in the three-year period ended December 31, 2021, in conformity with U.S. generally accepted accounting principles.

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 Public Company Accounting Oversight Board (United States) (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 and in accordance with auditing standards generally accepted in the United States of America. 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 a 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.

Sufficiency of audit evidence over certain subscriber and advertising revenues

As discussed in Notes 2 and 17 to the consolidated financial statements, and disclosed in the consolidated statements of comprehensive income, the Company generated $8,696 million of revenues, of which $6,084 million was Sirius XM subscriber revenue and $1,542 million was Pandora (Pandora Media, LLC and subsidiaries, the successor to Pandora Media, Inc. and subsidiaries) advertising revenue, for the year ended December 31, 2021. The Company's accounting for these subscriber and advertising revenues involved multiple information technology (IT) systems.

We identified the evaluation of the sufficiency of audit evidence related to Sirius XM subscriber revenue and Pandora advertising revenue as a critical audit matter. Evaluating the sufficiency of audit evidence obtained required auditor judgment due to the number of IT applications used by the Company that involved IT professionals with specialized skills and knowledge.

The following are the primary procedures we performed to address this critical audit matter. We applied auditor judgment to determine the nature and extent of procedures to be performed over Sirius XM subscriber and Pandora advertising revenues. We evaluated the design and tested the operating effectiveness of certain internal controls related to the Sirius XM subscriber and Pandora advertising revenue recognition processes. We involved IT professionals with specialized skills and knowledge, who assisted in testing certain IT application controls and general IT 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. For Sirius XM subscriber revenue, we assessed the recorded revenue by comparing the total cash received during the year, adjusted for reconciling items, to the revenue recorded in the general ledger. For a sample of Pandora advertising revenues, we traced 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, including the appropriateness of the nature and extent of such evidence.

/s/ KPMG LLP

We have served as the Company's auditor since 2008.

New York, New York
February 1, 2022

SIRIUS XM RADIO INC. AND SUBSIDIARIES
(a wholly-owned subsidiary of Sirius XM Holdings Inc.)
CONSOLIDATED STATEMENTS OF COMPREHENSIVE INCOME

	For the Years Ended December 31,		
(in millions)	**2021**	**2020**	**2019**
Revenue:			
Subscriber revenue	$ 6,614	$ 6,372	$ 6,120
Advertising revenue	1,730	1,340	1,336
Equipment revenue	201	173	173
Other revenue	151	155	165
Total revenue	8,696	8,040	7,794
Operating expenses:			
Cost of services:			
Revenue share and royalties	2,672	2,421	2,291
Programming and content	559	481	462
Customer service and billing	501	481	475
Transmission	218	177	170
Cost of equipment	18	19	29
Subscriber acquisition costs	325	362	427
Sales and marketing	1,056	957	937
Engineering, design and development	265	263	280
General and administrative	514	511	524
Depreciation and amortization	533	506	468
Impairment, restructuring and acquisition costs	20	1,004	84
Total operating expenses	6,681	7,182	6,147
Income from operations	2,015	858	1,647
Other (expense) income:			
Interest expense	(407)	(387)	(384)
Loss on extinguishment of debt	(83)	(40)	(57)
Other income (expense)	4	29	(24)
Total other (expense) income	(486)	(398)	(465)
Income before income taxes	1,529	460	1,182
Income tax expense	(212)	(301)	(284)
Net income attributable to Sirius XM Radio Inc.'s sole stockholder	$ 1,317	$ 159	$ 898
Foreign currency translation adjustment, net of tax	—	7	14
Total comprehensive income attributable to Sirius XM Radio Inc.'s sole stockholder	$ 1,317	$ 166	$ 912

See accompanying notes to the consolidated financial statements.

SIRIUS XM RADIO INC. AND SUBSIDIARIES
(a wholly-owned subsidiary of Sirius XM Holdings Inc.)
CONSOLIDATED BALANCE SHEETS

(in millions, except per share data)	As of December 31, 2021	2020
ASSETS		
Current assets:		
Cash and cash equivalents	$ 191	$ 71
Receivables, net	722	672
Related party current assets	21	20
Prepaid expenses and other current assets	246	204
Total current assets	1,180	967
Property and equipment, net	1,450	1,629
Intangible assets, net	3,186	3,340
Goodwill	3,136	3,107
Related party long-term assets	5,317	10,167
Deferred tax assets	211	122
Operating lease right-of-use assets	358	427
Other long-term assets	223	206
Total assets	$ 15,061	$ 19,965
LIABILITIES AND STOCKHOLDER EQUITY		
Current liabilities:		
Accounts payable and accrued expenses	$ 1,299	$ 1,223
Accrued interest	173	174
Current portion of deferred revenue	1,454	1,721
Current maturities of debt	—	1
Operating lease current liabilities	49	48
Related party current liabilities	5	—
Total current liabilities	2,980	3,167
Long-term deferred revenue	97	118
Long-term debt	8,875	8,544
Deferred tax liabilities	478	266
Operating lease liabilities	362	419
Other long-term liabilities	150	149
Total liabilities	12,942	12,663
Commitments and contingencies (Note 15)		
Stockholder equity:		
Common stock, par value $0.001 per share; 9,000 shares authorized; 0.001 shares issued and outstanding at December 31, 2021 and December 31, 2020, respectively	—	—
Accumulated other comprehensive income, net of tax	15	15
Additional paid-in capital	2,180	8,680
Accumulated deficit	(76)	(1,393)
Total stockholder equity	2,119	7,302
Total liabilities and stockholder equity	$ 15,061	$ 19,965

See accompanying notes to the consolidated financial statements.

SIRIUS XM RADIO INC. AND SUBSIDIARIES
(a wholly-owned subsidiary of Sirius XM Holdings Inc.)
CONSOLIDATED STATEMENTS OF STOCKHOLDER EQUITY

(in millions)	Common Stock Shares	Common Stock Amount	Accumulated Other Comprehensive (Loss) Income	Additional Paid-in Capital	Accumulated Deficit	Total Stockholder Equity
Balance at January 1, 2019	—	$ —	$ (6)	$ 8,680	$ (2,450)	$ 6,224
Comprehensive income, net of tax	—	$ —	14	—	898	912
Balance at December 31, 2019	—	—	$ 8	$ 8,680	$ (1,552)	$ 7,136
Comprehensive income, net of tax	—	—	7	—	159	166
Balance at December 31, 2020	—	$ —	$ 15	$ 8,680	$ (1,393)	$ 7,302
Equity distribution	—	—	—	(6,500)	—	(6,500)
Comprehensive income, net of tax	—	—	—	—	1,317	1,317
Balance at December 31, 2021	—	$ —	$ 15	$ 2,180	$ (76)	$ 2,119

See accompanying notes to the consolidated financial statements.

SIRIUS XM RADIO INC. AND SUBSIDIARIES
(a wholly-owned subsidiary of Sirius XM Holdings Inc.)
CONSOLIDATED STATEMENTS OF CASH FLOWS

	For the Years Ended December 31,		
(in millions)	2021	2020	2019
Cash flows from operating activities:			
Net income	$ 1,317	$ 159	$ 898
Adjustments to reconcile net income to net cash provided by operating activities:			
Depreciation and amortization	533	506	468
Non cash impairment and restructuring costs	24	1,000	—
Non-cash interest expense, net of amortization of premium	13	12	11
Change in fair value of contingent consideration	(17)	—	—
Provision for doubtful accounts	53	60	53
Amortization of deferred income related to equity method investment	—	(3)	(3)
Loss on extinguishment of debt	83	40	57
Loss on unconsolidated entity investments, net	18	16	21
Loss (gain) on fair value instrument	5	(23)	21
Dividend received from unconsolidated entity investment	2	2	2
Gain on other investments	(5)	(3)	(3)
Share-based payment expense	202	223	250
Deferred income tax expense	131	241	260
Amortization of right-of-use assets	50	56	56
Changes in operating assets and liabilities:			
Receivables	(108)	(36)	(137)
Related party, net	(78)	(133)	(152)
Prepaid expenses and other current assets	(47)	12	21
Other long-term assets	(8)	(61)	7
Accounts payable and accrued expenses	104	42	109
Accrued interest	(1)	13	32
Deferred revenue	(287)	(223)	(58)
Operating lease liabilities	(55)	(53)	(47)
Other long-term liabilities	(16)	38	9
Net cash provided by operating activities	1,913	1,885	1,875
Cash flows from investing activities:			
Additions to property and equipment	(388)	(350)	(363)
Proceeds from insurance recoveries	225	—	—
Purchases of other investments	(4)	(8)	(7)
Acquisition of business, net of cash acquired	(14)	(300)	313
Sale of short-term investments	—	—	73
Investments in related parties and other equity investees	(21)	(94)	(19)
Repayment from related party	2	11	—
Net cash used in investing activities	(200)	(741)	(3)
Cash flows from financing activities:			
Intercompany financing activities	(1,799)	(1,773)	(2,382)
Revolving credit facility, net	(653)	649	(439)
Proceeds from long-term borrowings, net of costs	4,442	1,481	2,715
Principal payments of long-term borrowings	(3,503)	(1,507)	(1,666)
Payment of premiums on redemption of debt	(62)	(31)	(45)
Payment of contingent consideration for business acquisition	(22)	—	—
Net cash used in financing activities	(1,597)	(1,181)	(1,817)
Net increase (decrease) in cash, cash equivalents and restricted cash	116	(37)	55
Cash, cash equivalents and restricted cash at beginning of period[1]	83	120	65
Cash, cash equivalents and restricted cash at end of period[1]	$ 199	$ 83	$ 120

See accompanying notes to the consolidated financial statements.

SIRIUS XM RADIO INC. AND SUBSIDIARIES
(a wholly-owned subsidiary of Sirius XM Holdings Inc.)
CONSOLIDATED STATEMENTS OF CASH FLOWS - Continued

	For the Years Ended December 31,		
(in millions)	**2021**	**2020**	**2019**
Supplemental Disclosure of Cash and Non-Cash Flow Information			
Cash paid during the period for:			
Interest, net of amounts capitalized	$ 393	$ 358	$ 337
Income taxes paid	$ 82	$ 38	$ 10
Non-cash investing and financing activities:			
Holdings' shares issued related to acquisition of a business	$ —	$ —	$ 2,355
Accumulated other comprehensive income, net of tax	$ —	$ 7	$ 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)	**December 31, 2021**	**December 31, 2020**	**December 31, 2019**	**December 31, 2018**
Cash and cash equivalents	$ 191	$ 71	$ 106	$ 54
Restricted cash included in Other long-term assets	8	12	14	11
Total cash, cash equivalents and restricted cash at end of period	$ 199	$ 83	$ 120	$ 65

See accompanying notes to the consolidated financial statements.

SIRIUS XM RADIO INC. AND SUBSIDIARIES
(a wholly-owned subsidiary of Sirius XM Holdings Inc.)
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS
(Dollars and shares in millions, except per share amounts)

(1) Business & Basis of Presentation

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 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 December 31, 2021, our Sirius XM business had approximately 34.0 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 December 31, 2021, Pandora had approximately 6.4 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 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 music 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 11 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. Simplecast complements AdsWizz's advertising technology platform, allowing the company to offer podcasters a solution for management, hosting, analytics and advertising sales. 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. During the year ended December 31, 2021, Stitcher did not achieve certain financial metrics, as a result of which we do not expect to pay to Scripps the 2021 portion of the contingent consideration associated with the transaction. During the year ended December 31, 2021, we recognized a $17 benefit related to the change in fair value of the 2021 portion of the contingent consideration. 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 December 31, 2021, Liberty Media Corporation ("Liberty Media") beneficially owned, directly and indirectly, approximately 81% of the outstanding shares of Holdings' common stock. As a result, Holdings is a "controlled company" for the purposes of the NASDAQ corporate governance requirements. Refer to Note 11 for more information regarding related parties.

Basis of Presentation

The accompanying consolidated financial statements 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.

The consolidated financial statements for Sirius XM for the fiscal year ended December 31, 2021 are essentially identical to the consolidated financial statements included in Holdings' Form 10-K for the fiscal year ended December 31, 2021, filed with the SEC on February 1, 2022, with the following exceptions:

- As a result of our corporate reorganization effective November 15, 2013, all of the outstanding shares of Sirius XM's common stock were converted, on a share for share basis, into identical shares of common stock of Holdings and all equity-related transactions, including repurchases of Holdings' common stock, dividend payments on shares of Holdings' common stock, the issuance of equity related to stock-based compensation to Sirius XM employees, Holdings' directors and third parties, and the issuance of Holdings' common stock related to the Pandora Acquisition have been reported as related party transactions within Sirius XM's consolidated financial statements. Refer to Note 11 for additional information related to related party transactions.

- As a result of the Pandora Acquisition effective February 1, 2019, we assumed Pandora's 1.75% Convertible Senior Notes due 2023 (the "Pandora 2023 Notes"). Upon the occurrence of certain events, the Pandora 2023 Notes can be convertible into shares of Holdings' common stock. Holdings allocates the principal amount of the Pandora 2023 Notes between liability and equity components. We have elected to measure the Pandora 2023 Notes at fair value with changes in fair value recorded within Sirius XM's consolidated statements of operations. Refer to Note 12 for more information regarding the Pandora 2023 Notes.

This Annual Report should be read together with Holdings' Annual Report on Form 10-K for the year ended December 31, 2021, which was filed with the SEC on February 1, 2022.

Public companies, including our parent Holdings, 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 17 for information related to our segments.

(Dollars and shares in millions, except per share amounts)

We have evaluated events subsequent to the balance sheet date and prior to the furnishing of this Annual Report for the year ended December 31, 2021 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 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 consolidated financial statements include asset impairment, depreciable lives of our satellites, share-based payment expense and income taxes.

(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-12
Fair Value Measurements	4	F-15
Goodwill	7	F-17
Intangible Assets	8	F-18
Property and Equipment	9	F-20
Equity Method Investments	11	F-23
Share-Based Compensation	14	F-29
Legal Reserves	15	F-32
Income Taxes	16	F-35

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, 2021 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, 2021, less than seven 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 pay minimum guarantees for revenue share to podcast talent which is recorded in Prepaid and other current assets in our consolidated balance sheets. 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.

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, 2021, 2020 and 2019, we recorded advertising costs of $515, $443 and $392, 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, 2021, 2020 and 2019, we recorded research and development costs of $229, $220 and $231, 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 11 for additional information). During the year ended December 31, 2021, we recorded a net foreign currency translation adjustment of less than $1. During the years ended December 31, 2020 and 2019, we recorded a foreign currency translation adjustment gain of $7 and $14, respectively, net of tax.

(3) Acquisitions

Other acquisitions

On April 23, 2021, we completed a small acquisition for total consideration of $27 which included $20 in cash, a $3 deferred cash payment and $4 in restricted stock units. We recognized goodwill of $23 and other assets of $5.

(Dollars and shares in millions, except per share amounts)

Stitcher

On October 16, 2020, Sirius XM acquired certain assets and liabilities of Stitcher from Scripps for $266 in cash, which amount included net working capital adjustments of $5 during the year ended December 31, 2021. The total purchase consideration of $302 included $36 related to the acquisition date fair value of the contingent consideration. During the year ended December 31, 2021, Stitcher did not achieve certain financial metrics, as a result of which we do not expect to pay to Scripps the 2021 portion of the contingent consideration associated with the transaction. During the year ended December 31, 2021, we recognized a $17 benefit related to the change in fair value of the 2021 portion of the contingent consideration in Impairment, restructuring and acquisition costs on our consolidated statements of comprehensive income. 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		224
Operating lease right-of-use assets		11
Total assets	$	318
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	$	302

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.

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, Holdings 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 Holdings' 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.

(Dollars and shares in millions, except per share amounts)

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
Holdings' common stock issued		392
Price per share of Holdings common stock	$	5.83
Value of Holdings' common stock issued to Pandora stockholders	$	2,285
Value of replacement equity awards attributable to pre-combination service	$	70
Consideration of Holdings' 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		1,538
Deferred tax assets		117
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 12 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 $1,538 was recorded to Goodwill in our consolidated balance sheets as of December 31, 2019. Refer to Note 7 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.

(Dollars and shares in millions, except per share amounts)

We recognized acquisition related costs of $84 related to the Pandora Acquisition 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, 2019:

	For the Years Ended December 31,		
	2021	2020	2019
Total revenue	$ 8,696	$ 8,046	$ 7,921
Net income	$ 1,317	$ 159	$ 922

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.

(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, 2021 and 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. 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.

(Dollars and shares in millions, except per share amounts)

Our assets and liabilities measured at fair value were as follows:

	December 31, 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)]	—	$ 9,052	—	$ 9,052	—	$ 9,011	—	$ 9,011

(a) The fair value for non-publicly traded instruments 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 December 31, 2021 and 2020.

(5) Restructuring Costs

During the year ended December 31, 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 for 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 consolidated statement of comprehensive income for the years ended December 31, 2021.

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 Impairment, restructuring and acquisition 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.

We did not record any restructuring expenses during the year ended December 31, 2019.

(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 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.

(Dollars and shares in millions, except per share amounts)

Receivables, net, consists of the following:

	December 31, 2021	December 31, 2020
Gross customer accounts receivable	$ 636	$ 574
Allowance for doubtful accounts	(10)	(15)
Customer accounts receivable, net	$ 626	$ 559
Receivables from distributors	62	73
Other receivables	34	40
Total receivables, net	$ 722	$ 672

(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 December 31, 2021, there were no indicators of impairment, and no impairment losses were recorded for goodwill during the year ended December 31, 2021.

During the year ended December 31, 2020, we performed a quantitative goodwill assessment and 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 relied 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 believed were appropriate. Additionally, assumptions related to guideline company financial multiples used in the market approach decreased based on market observations. The results of our 2020 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, restructuring and acquisitions line item in our consolidated statements of comprehensive income. No impairment losses were recorded for goodwill during the year ended December 31, 2019.

As of December 31, 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 December 31, 2021, the carrying amount of goodwill for our Sirius XM and Pandora reporting units was $2,290 and $846, respectively. During the year ended December 31, 2021, we recorded $6 of goodwill related to purchase accounting adjustments for the acquisition of Stitcher and $23 of goodwill related to a small acquisition which was recorded to our Pandora reporting unit. Refer to Note 3 for information regarding these acquisitions.

(Dollars and shares in millions, except per share amounts)

Refer to the table below for our goodwill activity for the years ended December 31, 2021 and 2020:

	Sirius XM	Pandora	Total
Balance at January 1, 2020	2,290	1,538	3,828
Acquisition	—	235	235
Impairment charge	—	(956)	(956)
Balance at December 31, 2020	2,290	817	3,107
Acquisition	—	29	29
Balance at December 31, 2021	$ 2,290	$ 846	$ 3,136

(8) Intangible Assets

Our intangible assets include the following:

		December 31, 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	(120)	100	220	(105)	115
Licensing agreements	12 years	45	(45)	—	45	(45)	—
Software and technology	7 years	31	(19)	12	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	(164)	277	441	(104)	337
Software and technology	5 years	373	(221)	152	373	(145)	228
Total intangible assets		$ 3,755	$ (569)	$ 3,186	$ 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.

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.

(Dollars and shares in millions, except per share amounts)

We completed our qualitative assessments of our FCC licenses and XM and Pandora trademarks during the fourth quarter of 2021. As of the date of our annual assessment, our qualitative impairment assessment of the fair value of our indefinite intangible assets indicated that the fair value of such assets exceeded their carrying value and therefore were not at risk of impairment.

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. 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 was written off and recognized in the Impairment, restructuring and acquisition costs 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.

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 year ended December 31, 2019.

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, 2021, 2020 and 2019.

Amortization expense for all definite life intangible assets was $154, $152, and $141 for the years ended December 31, 2021, 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 year ended December 31, 2020. There were no retirements of definite lived intangible assets during the year ended December 31, 2021.

The expected amortization expense for each of the fiscal years 2022 through 2026 and for periods thereafter is as follows:

Years ending December 31,	Amount
2022	$ 153
2023	141
2024	75
2025	69
2026	68
Thereafter	35
Total definite life intangible assets, net	$ 541

(Dollars and shares in millions, except per share amounts)

(9) 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. During the year ended December 31, 2021, we recorded an impairment charge of $220 related to our SXM-7 satellite which was offset by insurance recoveries. Refer to the discussion below for more information. We did not record any impairments during the years ended December 31, 2020 and 2019.

Property and equipment, net, consists of the following:

	December 31, 2021	December 31, 2020
Satellite system	$ 1,841	$ 1,587
Terrestrial repeater network	116	105
Leasehold improvements	109	111
Broadcast studio equipment	119	100
Capitalized software and hardware	1,591	1,372
Satellite telemetry, tracking and control facilities	67	96
Furniture, fixtures, equipment and other	92	92
Land	38	38
Building	81	63
Construction in progress	156	510
Total property and equipment	4,210	4,074
Accumulated depreciation	(2,760)	(2,445)
Property and equipment, net	$ 1,450	$ 1,629

(Dollars and shares in millions, except per share amounts)

Construction in progress consists of the following:

	December 31, 2021	December 31, 2020
Satellite system	$ 64	$ 429
Terrestrial repeater network	1	8
Capitalized software and hardware	78	52
Other	13	21
Construction in progress	$ 156	$ 510

Depreciation and amortization expense on property and equipment was $379, $354, and $327 for the years ended December 31, 2021, 2020 and 2019, respectively. We retired property and equipment of $65 during the year ended December 31, 2021. 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 during the year ended December 31, 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 $7, $19, and $17 for the years ended December 31, 2021, 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 $13, $17 and $13 for the years ended December 31, 2021, 2020 and 2019, respectively.

Satellites

As of December 31, 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 December 31, 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	2026
XM-4	2006	2021	2022
XM-5	2010	2025	2026
SXM-8	2021	2036	2029

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 was not recoverable and an impairment charge of $220 was recorded to Impairment, restructuring and acquisition costs in our consolidated statements of comprehensive income for the year ended December 31, 2021. SXM-7 remains in-orbit at 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 was $225. During the year ended December 31, 2021, we collected $225 of insurance recoveries. Of this amount, $220 has been recorded as a reduction to

(Dollars and shares in millions, except per share amounts)

Impairment, restructuring and acquisition costs during the year ended December 31, 2021. The remaining $5 has been recorded in Other income during the year ended December 31, 2021.

Our SXM-8 satellite was successfully launched into a geostationary orbit on June 6, 2021 and was placed into service on September 8, 2021 following the completion of in-orbit testing. The SXM-8 satellite replaced the XM-3 satellite, which remains available as an in-orbit spare along with XM-5.

(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 20 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.

During the year ended December 31, 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 5 for additional information.

The components of lease expense were as follows:

	For the Years Ended December 31,	
	2021	2020
Operating lease cost	$ 76	$ 82
Finance lease cost	1	1
Sublease income	(4)	(2)
Total lease cost	$ 73	$ 81

Supplemental cash flow information related to leases was as follows:

	For the Years Ended December 31,	
	2021	2020
Cash paid for amounts included in the measurement of lease liabilities:		
Operating cash flows from operating leases	$ 82	$ 79
Financing cash flows from finance leases	$ 1	$ 1
Right-of-use assets obtained in exchange for lease obligations:		
Operating leases	$ 3	$ 7

Supplemental balance sheet information related to leases was as follows:

	December 31, 2021	December 31, 2020
Operating Leases		
Operating lease right-of-use assets	$ 358	$ 427
Operating lease current liabilities	49	48
Operating lease liabilities	362	419
Total operating lease liabilities	$ 411	$ 467

(Dollars and shares in millions, except per share amounts)

	December 31, 2021	December 31, 2020
Finance Leases		
Property and equipment, gross	$ 9	$ 8
Accumulated depreciation	(8)	(7)
Property and equipment, net	$ 1	$ 1
Current maturities of debt	$ —	$ 1
Long-term debt	—	—
Total finance lease liabilities	$ —	$ 1

	December 31, 2021	December 31, 2020
Weighted Average Remaining Lease Term		
Operating leases	8 years	9 years
Finance leases	0 years	1 year

	December 31, 2021	December 31, 2020
Weighted Average Discount Rate		
Operating leases	5.3 %	5.3 %
Finance leases	— %	1.7 %

Maturities of lease liabilities were as follows:

	Operating Leases	Finance Leases
Year ending December 31,		
2022	$ 69	$ —
2023	71	—
2024	61	—
2025	60	—
2026	58	—
Thereafter	187	—
Total future minimum lease payments	506	—
Less imputed interest	(95)	—
Total	$ 411	$ —

(11) 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, 2021, Liberty Media beneficially owned, directly and indirectly, approximately 81% of the outstanding shares of Holdings' 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.

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, 2021, Liberty Media beneficially owned, directly and indirectly, approximately 81% of the outstanding shares of our common stock resulting in Holdings and Liberty Media becoming members of the same consolidated tax group. The tax sharing agreement governs 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.

Sirius XM Holdings

Sirius XM is a wholly-owned subsidiary of Holdings. Holdings has no operations independent of Sirius XM. All equity-related transactions, including repurchases of Holdings' common stock, dividend payments on shares of Holdings' common stock, the issuance of equity related to share-based compensation for Sirius XM employees, Holdings' directors and third parties and the issuance of Holdings' common stock related to the recapitalization of Sirius XM Canada and the Pandora Acquisition have been reported as related party transactions within our consolidated financial statements. The share-based compensation for Sirius XM employees, Holdings' directors and third parties has been recorded in our consolidated financial statements. The Related party long-term assets balance as of December 31, 2021 and December 31, 2020 of Sirius XM includes $4,790 and $9,636 respectively, primarily for net amounts due from Holdings in connection with these equity-related transactions. During the years ended December 31, 2021, we completed a $6,500 equity distribution to Holdings to settle certain intercompany balances. The equity distribution was recognized as a reduction to Additional paid in capital.

During the year ended December 31, 2021, we used $1,799 of our cash for the purchase and retirement of shares of Holdings' common stock under Holdings' repurchase program and payment of a cash dividend on Holdings' common stock. This amount is included in our Related party long-term asset balance as a receivable due from Holdings.

Sirius XM Canada

We hold 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, 2021, 2020 and 2019, Sirius XM Canada repaid $2, $11 and less than $1 of the principal amount of the loan, respectively.

We 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 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, 2021 and December 31, 2020 included the carrying value of our investment balance in Sirius XM Canada of $334 and $332, respectively, and, as of December 31, 2021 and December 31, 2020, also included $120 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 $2 during each of the years ended December 31, 2021, 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 consolidated statements of comprehensive income of $101, $97 and $98 for the years ended December 31, 2021, 2020 and 2019, respectively.

SoundCloud

In February 2020, we 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 sheets. Sirius XM has appointed two individuals to serve on SoundCloud's nine-member board of managers. Our share of SoundCloud's net loss was $2 and $1 for the years ended December 31, 2021 and 2020, respectively, which was recorded in Other (expense) income in our consolidated statements 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 $60, $55 and $40 for the years ended December 31, 2021, 2020 and 2019, respectively. We also had related party liabilities of $24 as of each of December 31, 2021 and 2020, related to this agreement.

(Dollars and shares in millions, except per share amounts)

(12) Debt

Our debt as of December 31, 2021 and December 31, 2020 consisted of the following:

						Carrying value[a] at	
Issuer / Borrower	Issued	Debt	Maturity Date	Interest Payable	Principal Amount at December 31, 2021	December 31, 2021	December 31, 2020
Sirius XM (b) (f)	July 2017	3.875% Senior Notes	August 1, 2022	semi-annually on February 1 and August 1	$ —	$ —	$ 997
Pandora (c) (d)	June 2018	1.75% Convertible Senior Notes	December 1, 2023	semi-annually on June 1 and December 1	193	220	215
Sirius XM (b) (f)	July 2019	4.625% Senior Notes	July 15, 2024	semi-annually on January 15 and July 15	—	—	1,488
Sirius XM (b) (f)	May 2016	5.375% Senior Notes	July 15, 2026	semi-annually on January 15 and July 15	—	—	993
Sirius XM (b) (g)	August 2021	3.125% Senior Notes	September 1, 2026	semi-annually on March 1 and September 1	1,000	990	—
Sirius XM (b)	July 2017	5.00% Senior Notes	August 1, 2027	semi-annually on February 1 and August 1	1,500	1,491	1,490
Sirius XM (b) (g)	June 2021	4.00% Senior Notes	July 15, 2028	semi-annually on January 15 and July 15	2,000	1,979	—
Sirius XM (b)	June 2019	5.500% Senior Notes	July 1, 2029	semi-annually on January 1 and July 1	1,250	1,239	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 (b) (g)	August 2021	3.875% Senior Notes	September 1, 2031	semi-annually on March 1 and September 1	1,500	1,484	—
Sirius XM (e)	December 2012	Senior Secured Revolving Credit Facility (the "Credit Facility")	August 31, 2026	variable fee paid quarterly	—	—	649
Sirius XM	Various	Finance leases	Various	n/a	n/a	—	1
Total Debt						8,888	8,554
Less: total current maturities						—	1
Less: total deferred financing costs						13	9
Total long-term debt						$ 8,875	$ 8,544

(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 elected to record the 1.75% Convertible Senior Notes due 2023 at fair value which will be remeasured each reporting period. The changes in fair value will be recorded in our consolidated statements of comprehensive income. The 1.75% Convertible Senior Notes due 2023 were not convertible into Holdings' common stock and not redeemable as of December 31, 2021. As a result, we have classified the debt as Long-term within our consolidated balance sheets.
(e) In August 2021, we entered into an amendment to extend the maturity of the $1,750 Credit Facility to August 31, 2026. Our obligations under the Credit Facility are guaranteed by certain of our material domestic subsidiaries, including Pandora and its subsidiaries, and are secured by a lien on substantially all of our assets and the assets of our material domestic subsidiaries. Interest on borrowings is payable on a monthly basis and accrues at a rate based on LIBOR plus an applicable rate. We are 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, 2021. Our 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, 2021.

(f) On August 2, 2021, we redeemed $1,000 in outstanding principal amount of the 3.875% Senior Notes due 2022 for an aggregate redemption price, including interest, of $1,019. On August 16, 2021, we redeemed $1,500 in outstanding principal amount of the 4.625% Senior Notes due 2024 for an aggregate redemption price, including premium and interest, of $1,541. On September 2, 2021, we redeemed $1,000 in outstanding principal amount of the 5.375% Senior Notes due 2026 for an aggregate redemption price, including premium and interest, of $1,034. During the years ended December 31, 2021, we recognized $83 to Loss on extinguishment of debt, consisting primarily of redemption premiums of $62, unamortized discount and unamortized deferred financing fees, as a result of these redemptions.

(g) On August 16, 2021, we issued $1,000 aggregate principal amount of the 3.125% Senior Notes due 2026 and $1,500 aggregate principal amount of the 3.875% Senior Notes due 2031 with a net original issuance discount and deferred financing costs in aggregate of $13 and $19, respectively. On June 21, 2021, we 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.

Retired Debt

On July 9, 2020, we redeemed $500 of our then outstanding 4.625% Senior Notes due 2023 for an aggregate redemption price, including premium and interest, of $507. On July 9, 2020, we also redeemed $1,000 of our then outstanding 5.375% Senior Notes due 2025 for an aggregate redemption price, including premium and interest, of $1,039. During the year ended December 31, 2020, we recognized $40 to Loss on extinguishment of debt, consisting primarily of redemption premiums, unamortized discount and deferred financing fees, as a result of these redemptions.

On July 18, 2019, we redeemed $1,500 of our then outstanding principal amount of the 6.00% Senior Notes due 2024 for an aggregate redemption price, including premium and interest, of $1,546. During the year ended December 31, 2019, we recognized $57 to Loss on extinguishment of debt, consisting primarily of unamortized discount, deferred financing fees and redemption premium, as a result of this redemption.

Covenants and Restrictions

Under the Credit Facility, we 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 our 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 our assets, and (vii) make voluntary prepayments of certain debt, in each case subject to exceptions.

The indentures governing our notes restrict our 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 our ability and the ability of our subsidiaries to create certain liens; enter into sale/leaseback transactions; and merge or consolidate.

Under our 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 December 31, 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 December 31, 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 plus carryforward adjustments not yet effected pursuant to the terms of the indenture governing the Pandora 2023 Notes.

(13) Stockholder Equity

Common Stock, par value $0.001 per share

We are authorized to issue up to 9,000 shares of common stock. There were 0.001 shares of common stock of Sirius XM issued and outstanding on December 31, 2021 and December 31, 2020, which were owned by Holdings.

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, 2021 and December 31, 2020.

(14) Benefit Plans

We recognized share-based payment expense of $202, $223 and $250 for the years ended December 31, 2021, 2020 and 2019, respectively. The amount recognized during the year ended December 31, 2019 includes $21 of share-based compensation expense recorded in Impairment, restructuring and acquisition 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 unit awards using the fair market value of the restricted shares of common stock on the day the award is granted. We measure the value of restricted units that will vest depending a relative total stockholder return metric – that is, the performance of our common stock as compared other companies included in the S&P 500 Index – using a special option-based valuation method, known as a Monte Carlo simulation. Since the results of such awards depend on future results, which are not known on the grant date, the Monte Carlo simulation attempts to take into consideration the terms of the awards, potential future returns, payout rates, and other factors to estimate a fair value of the award. The Monte Carlo simulation method uses factual data for the company and employs various assumptions. 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, 2021, 2020 and 2019, 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 Holdings' 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 Holdings' 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, 2021, 134 shares of common stock were available for future grants under the 2015 Plan.

In February 2021, the Compensation Committee of Holdings' 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 equal installments on the first three anniversaries of the date of grant; 25% restricted stock units, which awards will vest in equal 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.

(Dollars and shares in millions, except per share amounts)

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 Years Ended December 31,		
	2021	2020	2019
Risk-free interest rate	0.6%	1.0%	2.4%
Expected life of options — years	6.06	3.91	3.41
Expected stock price volatility	33%	28%	26%
Expected dividend yield	1.0%	0.8%	0.8%

The following table summarizes stock option activity under our share-based plans for the years ended December 31, 2021, 2020 and 2019:

	Options	Weighted-Average Exercise Price Per Share	Weighted-Average Remaining Contractual Term (Years)	Aggregate Intrinsic Value
Outstanding at the beginning of January 1, 2019	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		
Granted	54	$ 6.14		
Exercised	(72)	$ 3.98		
Forfeited, cancelled or expired	(5)	$ 6.73		
Outstanding as of December 31, 2021	161	$ 5.47	5.74	$ 156
Exercisable as of December 31, 2021	101	$ 5.01	4.92	$ 144

SIRIUS XM RADIO INC. AND SUBSIDIARIES
(a wholly-owned subsidiary of Sirius XM Holdings Inc.)
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The weighted average grant date fair value per stock option granted during the years ended December 31, 2021, 2020 and 2019 was $1.77, $1.46 and $1.26, respectively. The total intrinsic value of stock options exercised during the years ended December 31, 2021, 2020 and 2019 was $170, $94 and $146, respectively.

We recognized share-based payment expense associated with stock options of $42, $45 and $60 for the years ended December 31, 2021, 2020 and 2019, respectively.

The following table summarizes the restricted stock unit, including PRSU, activity under our share-based plans for the years ended December 31, 2021, 2020 and 2019:

	Shares	Grant Date Fair Value Per Share
Nonvested at the beginning of January 1, 2019	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
Granted	40	$ 6.35
Vested	(26)	$ 6.02
Forfeited	(9)	$ 6.11
Nonvested as of December 31, 2021	80	$ 6.22

The total intrinsic value of restricted stock units, including PRSUs, vesting during the years ended December 31, 2021, 2020 and 2019 was $166, $196 and $235, respectively. During the years ended December 31, 2021, 2020 and 2019, we granted 7, 4 and 6 PRSUs to certain employees, respectively. We believe it is probable that the performance target applicable to these PRSUs will be achieved.

In connection with the cash dividends paid during each of the years ended December 31, 2021, 2020 and 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 years ended December 31, 2021, 2020 and 2019.

We recognized share-based payment expense associated with restricted stock units, including PRSUs, of $160, $178 and $190 for the years ended December 31, 2021, 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 December 31, 2021 and December 31, 2020 was $455 and $385, respectively. The total unrecognized compensation costs at December 31, 2021 are expected to be recognized over a weighted-average period of 2.5 years.

401(k) Savings Plans

Sirius XM Radio Inc. 401(k) Savings Plan

We sponsor 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 Holdings' common stock on the open market, unless the employee elects Holdings' 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.

(Dollars and shares in millions, except per share amounts)

We recognized expenses of $21, $16 and $9 for the years ended December 31, 2021, 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 Holdings' 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, Holdings or any of its subsidiaries may elect to make additional contributions beyond amounts deferred by participants, but is under no obligation to do so. Holdings has established a grantor (or "rabbi") trust to facilitate the payment of its obligations under the DCP.

Contributions to the DCP, net of withdrawals, were $4, $8 and $7 for the years ended December 31, 2021, 2020 and 2019, respectively. As of December 31, 2021 and December 31, 2020, the fair value of the investments held in the trust were $56 and $46, 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. We recorded gains on investments held in the trust of $5, $3 and $3 for the years ended December 31, 2021, 2020 and 2019, respectively.

(15) Commitments and Contingencies

The following table summarizes our expected contractual cash commitments as of December 31, 2021:

	2022	2023	2024	2025	2026	Thereafter	Total
Debt obligations	$ —	$ 193	$ —	$ —	$ 1,000	$ 7,750	$ 8,943
Cash interest payments	392	383	379	379	378	979	2,890
Satellite and transmission	114	141	120	27	1	9	412
Programming and content	496	395	247	128	50	148	1,464
Sales and marketing	67	21	4	3	3	3	101
Satellite incentive payments	7	7	8	7	4	19	52
Operating lease obligations	68	65	51	48	44	92	368
Royalties, minimum guarantees and other	303	498	26	8	1	2	838
Total (1)	$ 1,447	$ 1,703	$ 835	$ 600	$ 1,481	$ 9,002	$ 15,068

(1) The table does not include our reserve for uncertain tax positions, which at December 31, 2021 totaled $35.

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 third parties to design, build and launch two new satellites, SXM-9 and SXM-10. 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, SIRIUS FM-6, and SXM-8 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, 2021, 2020 and 2019 was $69, $73 and $75, 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. During the year ended December 31, 2021, we prepaid $5 in content costs related to minimum guarantees. As of December 31, 2021, we had future fixed minimum guarantee commitments of $444, of which $24 will be paid in 2022 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 such audits often 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 Holdings' common stock acquired in our capital return program but not paid for as of December 31, 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.

On August 23, 2021, the United States Court of Appeals for the Ninth Circuit issued an Opinion in a related case, *Flo & Eddie Inc. v. Sirius XM Radio Inc.* The related case also concerned a class action suit brought by Flo & Eddie Inc. regarding the public performance of pre-1972 recordings under California law. Relying on California’s copyright statute, Flo & Eddie argued that California law gave it the “exclusive ownership” of its pre-1972 songs, including the right of public performance. The Ninth Circuit reversed the District Court’s grant of partial summary judgment to Flo & Eddie Inc. The Ninth Circuit held that the District Court in this related case erred in concluding that “exclusive ownership” under California’s copyright statute included the right of public performance. The Ninth Circuit remanded the case for entry of judgment consistent with the terms of the parties’ contingent settlement agreement, and on October 6, 2021, the parties to the related case stipulated to its dismissal with prejudice.

(Dollars and shares in millions, except per share amounts)

Following issuance of the *Flo & Eddie Inc. v. Sirius XM Radio Inc.* opinion, on September 3, 2021, the Ninth Circuit lifted the stay of appellate proceedings in *Flo & Eddie, Inc. v. Pandora Media, LLC*. The *Flo & Eddie Inc. v. Sirius XM Radio Inc.* decision is precedential in the Ninth Circuit, and therefore we believe substantially narrows the claims that Flo & Eddie may continue to assert against Pandora. We believe we have substantial defenses to the remaining claims asserted in this action, and we intend to defend this action 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; 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.

(16) Income Taxes

Current federal income tax expense or benefit represents the amounts expected to be reported on the Company's income tax return, and deferred income tax expense or benefits represents the change in net deferred tax assets and liabilities. Deferred tax assets and liabilities are determined based on the difference between the financial statement and tax bases of assets and liabilities as measured by the enacted income tax rates that will be in effect when these differences reverse. 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 have historically filed a consolidated federal income tax return for all of our wholly owned subsidiaries, including Sirius XM and Pandora. On February 1, 2021, we 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 contains provisions that we believe are customary for tax sharing agreements between members of a consolidated group. On November 3, 2021, Liberty Media informed us that it beneficially owned over 80% of the outstanding shares of our common stock; as a result of this, we will now be included in the consolidated tax return of Liberty Media beginning November 4, 2021. 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. We have calculated the provision for income taxes by using a separate return method.

Our current tax expense is the amount of tax payable on the basis of a hypothetical, current-year separate return. We provided deferred taxes on temporary differences and on any carryforwards that we could claim on our hypothetical return and assess the need for a valuation allowance on the basis of our projected separate return results. Any difference between the tax expense (or benefit) allocated to us under the separate return method and payments to be made for (or received from) Liberty Media for tax expense are treated as either dividends or capital contributions.

Income tax expense consisted of the following:

	For the Years Ended December 31,		
	2021	2020	2019
Current taxes:			
Federal	$ (31)	$ —	$ —
State	(50)	(61)	(24)
Total current taxes	(81)	(61)	(24)
Deferred taxes:			
Federal	(210)	(220)	(230)
State	79	(20)	(30)
Total deferred taxes	(131)	(240)	(260)
Total income tax expense	$ (212)	$ (301)	$ (284)

(Dollars and shares in millions, except per share amounts)

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,		
	2021	2020	2019
Federal tax expense, at statutory rate	21.0 %	21.0 %	21.0 %
State income tax expense, net of federal benefit	4.1 %	4.2 %	3.9 %
Change in valuation allowance	1.5 %	0.7 %	0.3 %
Tax credits	(4.7)%	(9.7)%	(2.7)%
Share-based compensation	(1.0)%	(3.5)%	(2.4)%
Impact of nondeductible compensation	0.6 %	2.6 %	1.6 %
Automatic worthless stock deduction	— %	(3.5)%	— %
Goodwill impairment	— %	50.4 %	— %
Uncertain tax positions	(0.1)%	4.4 %	— %
Audit Settlements	(7.6)%	— %	— %
Other, net	0.1 %	(1.2)%	2.3 %
Effective tax rate	13.9 %	65.4 %	24.0 %

Our effective tax rate of 13.9% for the year ended December 31, 2021 was primarily impacted by settlements with various states as well as a benefit related to research and development and certain other credits, partially offset by federal and state income tax expense. Our effective tax rate of 65.4% 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 24.0% 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.

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.

(Dollars and shares in millions, except per share amounts)

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,	
	2021	2020
Deferred tax assets:		
Net operating loss carryforwards and tax credits	$ 681	$ 745
Deferred revenue	52	62
Accrued bonus	35	29
Expensed costs capitalized for tax	9	11
Investments	20	21
Stock based compensation	57	74
Operating lease liability	104	118
Other	26	13
Total deferred tax assets	984	1,073
Deferred tax liabilities:		
Depreciation of property and equipment	(286)	(237)
FCC license	(522)	(521)
Other intangible assets	(263)	(292)
Right of use asset	(89)	(106)
Other	(8)	(7)
Total deferred tax liabilities	(1,168)	(1,163)
Net deferred tax assets before valuation allowance	(184)	(90)
Valuation allowance	(83)	(54)
Total net deferred tax (liability) asset	$ (267)	$ (144)

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, 2021 and 2020, we recorded $71 and $44 for state and federal tax credits, respectively. As of December 31, 2021, our gross federal net operating loss carryforwards were approximately $643. We expect to utilize a majority of our federal income tax credits, which consist of research and development tax credits, other tax credits and foreign tax credits, by December 31, 2022.

As of December 31, 2021 and 2020, we had a valuation allowance related to deferred tax assets of $83 and $54, respectively, which were not likely to be realized due to the timing of certain state net operating loss limitations. During the year ended December 31, 2021, our valuation allowance increased primarily as a result of the increase in net deferred tax asset related to prior net operating loss carryforwards as a result of settlements with various states. As a portion of these net operating losses are not anticipated to be realizable, we increased our valuation allowance for those expected to expire un-utilized based on taxable income projections.

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.

(Dollars and shares in millions, except per share amounts)

As of December 31, 2021 and 2020, we had unrecognized tax benefits and uncertain tax positions of $179 and $433, respectively. If recognized, $179 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, 2021 and 2020, were $35 and $30, 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, 2021 will significantly increase or decrease during the year ending December 31, 2022. 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 $1 and $6 for the years ended December 31, 2021 and 2020, 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:

	2021	2020
Balance, beginning of year	$ 433	$ 406
Increases in tax positions for prior years	9	14
Increases in tax positions for current year	13	20
Decreases in tax positions for prior years	(24)	(7)
Decreases related to settlement with taxing authorities	(252)	—
Balance, end of year	$ 179	$ 433

(17) 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, 2021 and 2020.

SIRIUS XM RADIO INC. AND SUBSIDIARIES
(a wholly-owned subsidiary of Sirius XM Holdings Inc.)
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, 2021		
	Sirius XM	Pandora	Total
Revenue			
Subscriber revenue	$ 6,084	$ 530	$ 6,614
Advertising revenue	188	1,542	1,730
Equipment revenue	201	—	201
Other revenue	151	—	151
Total revenue	6,624	2,072	8,696
Cost of services [(a)]	(2,594)	(1,329)	(3,923)
Segment gross profit	$ 4,030	$ 743	$ 4,773

The reconciliation between reportable segment gross profit to consolidated income before income tax is as follows:

	For the Year Ended December 31, 2021
Segment Gross Profit	$ 4,773
Subscriber acquisition costs	(325)
Sales and marketing [(a)]	(998)
Engineering, design and development [(a)]	(229)
General and administrative [(a)]	(451)
Depreciation and amortization	(533)
Share-based payment expense	(202)
Impairment, restructuring and acquisition costs	(20)
Total other (expense) income	(486)
Consolidated income before income taxes	$ 1,529

(a) Share-based payment expense of $45 related to cost of services, $58 related to sales and marketing, $36 related to engineering, design and development and $63 related to general and administrative has been excluded for the year ended December 31, 2021.

	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 [(b)]	(2,430)	(1,105)	(3,535)
Segment gross profit	$ 3,912	$ 593	$ 4,505

(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 Year Ended December 31, 2020
Segment Gross Profit	$ 4,505
Subscriber acquisition costs	(362)
Sales and marketing [(b)]	(889)
Engineering, design and development [(b)]	(220)
General and administrative [(b)]	(443)
Depreciation and amortization	(506)
Share-based payment expense	(223)
Impairment, restructuring and acquisition costs	(1,004)
Total other (expense) income	(398)
Consolidated income before income taxes	$ 460

(b) 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 [(c)]	(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 [(c)]	(859)
Engineering, design and development [(c)]	(231)
General and administrative [(c)]	(466)
Depreciation and amortization	(468)
Share-based payment expense	(229)
Impairment, restructuring and acquisition costs	(84)
Total other (expense) income	(465)
Consolidated income before income taxes	$ 1,182

(c) 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, 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 year ended December 31, 2021.

(18) Subsequent Events

Holdings' Capital Return Program

For the period from January 1, 2022 to January 28, 2022, we repurchased $116 of Holdings' common stock on the open market, including fees and commissions.

On January 26, 2022, Holdings' board of directors declared a quarterly dividend on Holdings' common stock in the amount of $0.0219615 per share of Holdings' common stock payable on February 25, 2022 to Holdings' stockholders of record as of the close of business on February 11, 2022.

On January 31, 2022, Holdings' board of directors declared a special cash dividend on Holdings' common stock in the amount of $0.25 per share of Holdings' common stock payable on February 25, 2022 to Holdings' stockholders of record as of the close of business on February 11, 2022.