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Spotify Technology S.A.

42-44, avenue de la Gare

L- 1610 Luxembourg
R.C.S. Luxembourg B 123052

Consolidated financial statements as at December 31, 2017 and Independent auditor's report

Spotify Technology S.A.

The company is incorporated in Luxembourg.

Company number:	B 123052
Registered office:	42-44, avenue de la Gare L-1610, Luxembourg
Current directors:	Daniel Ek Martin Lorentzon Shishir Mehrotra Heidi O'Neill Ted Sarandos Thomas Staggs Cristina Stenbeck Padmasree Warrior
Auditors:	Ernst & Young SA 35E, avenue John F. Kennedy L-1855 Luxembourg

SPOTIFY TECHNOLOGY S.A.
SOCIETE ANONYME
REGISTERED OFFICE: 42-44, AVENUE DE LA GARE
L-1610 LUXEMBOURG

R.C.S. LUXEMBOURG B 123 052

Management report from the Board of Directors on the consolidated financial statements for the year ended December 31, 2017.

Luxembourg, February __ 2018

Dear Shareholder,

We have called you to a General Meeting with a view to submitting for your approval the consolidated financial statements of Spotify Technology S.A. (the "Company") and its subsidiaries (the "Group" or "Spotify") for the year ended December 31, 2017, which are annexed to this report as an essential component.

You should read the following management report of our financial condition and results of operations together with our consolidated financial statements and related notes.

As of February 28, 2018, the Company has applied to list its ordinary shares on the New York Stock Exchange.

Overview

Our mission is to unlock the potential of human creativity by giving a million creative artists the opportunity to live off their art and billions of fans the opportunity to enjoy and be inspired by these creators. When we launched our Service in 2008, music industry revenues had been in decline, with total global recorded music industry revenues falling from $23 billion in 1999 to $16.9 billion in 2008. Growth in piracy and digital distribution were disrupting the industry. People were listening to plenty of music, but the market needed a better way for artists to monetize their music and consumers needed a legal and simpler way to listen. We set out to reimagine the music industry and to provide a better way for both artists and consumers to benefit from the digital transformation of the music industry. Spotify was founded on the belief that music is universal and that streaming is a more robust and seamless access model that benefits both artists and music fans.

We are the largest global music streaming subscription service. With a presence in 61 countries and growing, our platform includes 159 million MAUs and 71 million Premium Subscribers as of December 31,2017, which we believe is nearly double the scale of our closest competitor, Apple Music.

We operate and manage our business in two reportable segments—Premium and Ad-Supported. We identify our reportable segments based on the organizational units used by management to monitor performance and make operating decisions. See Note 6 to our consolidated financial statements for additional information regarding our reportable segments.

Review of business and results for 2017

Our Premium revenue and Ad-Supported revenue increased 38% and 41%, respectively, year over year, and the number of monthly active users and paying subscribers increased from 123 million at the end of 2016 to approximately 159 million by the end of 2017, and paid subscribers increased from 48 million to 71 million.

Annual overview	2016	2017
Revenue in millions	€ 2,952	€4,090

The Group showed a gross profit of €849 million compared to a gross profit last year of €401 million. This was primarily attributable to an increase in revenue that outpaced the growth in content costs pursuant to new licensing agreements.

The Operating loss for the year ending 2017 amounts to €378 million compared to €349 million last year. The increase was due primarily to operating costs growing at a greater pace than revenue due to investments in product improvement and advertising costs. This was partially offset by the improvements to our gross margin noted above.

Our Net loss for the year ending 2017 amounts to €1,235 million compared to €539 million last year. The increase over our operating loss primarily relates to the cost of debt, warrants, and the impact of foreign exchange rates on our debt and investments.

Net loss attributable to owners of the parent

	Year ended December 31,			Change			
	2015	2016	2017	2015 to 2016		2016 to 2017	
	(in € millions, except percentages)						
Net loss attributable to owners of the parent.............	(230)	(539)	(1,235)	(309)	134%	(696)	129%

For the year ended December 31, 2017 as compared to 2016, net loss attributable to owners of the parent increased by €696 million, an increase of 129%, due to the factors stated above.

For the year ended December 31, 2016 as compared to 2015, net loss attributable to owners of the parent increased by €309 million, an increase of 134%, due to the factors stated above.

Net loss per share

On February 28, 2018, the Board of Directors of the Company approved a 40-to-one share split of the Company's ordinary shares which will become effective upon approval by the Company's shareholders. All share and per share information included in the accompanying financial statements have not been adjusted to reflect this share split.

The following calculation of basic and diluted loss per share has been prepared to reflect the share-split.

	2015	2016	2017
	(in € millions, except share and per share data)		
Basic and diluted			
Net loss attributable to owners of the parent............	(230)	(539)	(1,235)
Shares used in computation:			
Weighted-average ordinary shares outstanding..	141,946,600	148,368,720	151,668,769
Basic and diluted net loss per share attributable to owners of the parent...	**(1.62)**	**(3.63)**	**(8.14)**

Principal risks and uncertainties

Our ability to grow our business and generate revenue depends on retaining and expanding our total User base, increasing advertising revenue by effectively monetizing our Ad-Supported User base, and increasing the number of Premium Subscribers. If our efforts to attract prospective Users and to retain existing Users are not successful, our growth prospects and revenue will be adversely affected.

We depend upon third-party licenses for sound recordings and musical compositions and an adverse change to, loss of, or claim that we do not hold any necessary licenses may materially adversely affect our business, operating results, and financial condition.

We have no control over the providers of our content, and our business may be adversely affected if our access to music is limited or delayed. The concentration of control of content by our major providers means that even one entity, or a small number of entities working together, may unilaterally affect our access to music and other content.

Research and Development

We invest heavily in research and development in order to drive User engagement and customer satisfaction on our platform, which we believe helps to drive organic growth, which in turn drives additional growth in, and better retention of, Premium Subscribers, as well as increased advertising opportunities to Ad-Supported Users. Research and development expenses were 7%, 7%, and 10% of our total revenue in each of 2015, 2016 and 2017, respectively. Expenses primarily comprise costs incurred for development of products related to our platform and Service, as well as new advertising products and improvements to our mobile application and desktop application, and streaming services. The costs incurred include related facility costs, consulting costs, and employee compensation and benefits costs.

Financial risk management

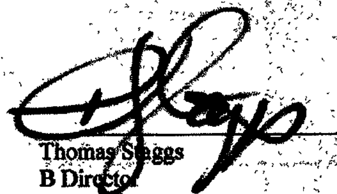
Our operations are exposed to financing and financial risks, which are managed under the control and supervision of the Board of Directors of the Company. To manage these risks efficiently, we have established guidelines in the form of a treasury policy that serves as a framework for the daily financial operations. The treasury policy stipulates the rules and limitations for the management of financial risks throughout the Group.

Financial risk management is centralized within Treasury who is responsible for the management of financing and financial risks. Treasury manages and executes the financial management activities, including monitoring the exposure of financial risks, cash management, and maintaining a liquidity reserve, and it provides certain financial services to the entities of the Group. Treasury operates within the limits and policies authorized by the Board of Directors.

Further information on financial risks and our management of them are given in Note 22 of the consolidated financial statements.

Repurchases and dividends

The Company did not repurchase any of its own shares and no dividends were declared or paid during the years 2016 and 2017.



Daniel Ek
A Director

Thomas Staggs
B Director

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Ernst & Young
Société anonyme

35E, Avenue John F. Kennedy
L-1855 Luxembourg

Tel: +352 42 124 1

www.ey.com/luxembourg

B.P. 780
L-2017 Luxembourg

R.C.S. Luxembourg B 47 771
TVA LU 16063074

Independent auditor's report

To the Shareholders of
Spotify Technology S.A.
Société Anonyme
42-44, avenue de la Gare
L-1610 Luxembourg

Report on the audit of the consolidated financial statements

Opinion

We have audited the consolidated financial statements of Spotify Technology S.A. and its subsidiaries (the "Group"), which comprise the consolidated statement of financial position as at 31 December 2017, and the consolidated statement of operations, the consolidated statement of comprehensive loss, the consolidated statement of changes in equity and consolidated statement of cash flows for the year then ended, and the notes to the consolidated financial statements, including a summary of significant accounting policies.

In our opinion, the accompanying consolidated financial statements give a true and fair view of the consolidated financial position of the Group as at 31 December 2017, and of its consolidated financial performance and its consolidated cash flows for the year then ended in accordance with International Financial Reporting Standards ("IFRS") as adopted by the European Union.

Basis for Opinion

We conducted our audit in accordance with the Law of 23 July 2016 on the audit profession (the "Law of 23 July 2016") and with International Standards on Auditing ("ISAs") as adopted for Luxembourg by the "Commission de Surveillance du Secteur Financier" ("CSSF"). Our responsibilities under those Law and standards are further described in the "responsibilities of the "réviseur d'entreprises agréé" for the audit of the consolidated financial statements" section of our report. We are also independent of the Group in accordance with the International Ethics Standards Board for Accountants' Code of Ethics for Professional Accountants ("IESBA Code") as adopted for Luxembourg by the CSSF together with the ethical requirements that are relevant to our audit of the consolidated financial statements, and have fulfilled our other ethical responsibilities under those ethical requirements. We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our opinion.

Other information

The Board of Directors is responsible for the other information. The other information comprises the information included in the consolidated management report but does not include the consolidated financial statements and our report of the "réviseur d'entreprises agréé" thereon.

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Our opinion on the consolidated financial statements does not cover the other information and we do not express any form of assurance conclusion thereon.

In connection with our audit of the consolidated financial statements, our responsibility is to read the other information and, in doing so, consider whether the other information is materially inconsistent with the consolidated financial statements or our knowledge obtained in the audit or otherwise appears to be materially misstated. If, based on the work we have performed, we conclude that there is a material misstatement of this other information, we are required to report this fact. We have nothing to report in this regard.

Responsibilities of the Board of Directors and those charged with governance for the consolidated financial statements

The Board of Directors is responsible for the preparation and fair presentation of these consolidated financial statements in accordance with IFRS as adopted by the European Union, and for such internal control as the Board of Directors determines is necessary to enable the preparation of consolidated financial statements that are free from material misstatement, whether due to fraud or error.

In preparing the consolidated financial statements, the Board of Directors is responsible for assessing the Group's ability to continue as a going concern, disclosing, as applicable, matters related to going concern and using the going concern basis of accounting unless the Board of Directors either intends to liquidate the Group or to cease operations, or has no realistic alternative but to do so.

Responsibilities of the "réviseur d'entreprises agréé" for the audit of the consolidated financial statements

Our objectives are to obtain reasonable assurance about whether the consolidated financial statements as a whole are free from material misstatement, whether due to fraud or error, and to issue a report of the "réviseur d'entreprises agréé" that includes our opinion. Reasonable assurance is a high level of assurance, but is not a guarantee that an audit conducted in accordance with the Law of 23 July 2016 and with ISAs as adopted for Luxembourg by the CSSF will always detect a material misstatement when it exists. Misstatements can arise from fraud or error and are considered material if, individually or in the aggregate, they could reasonably be expected to influence the economic decisions of users taken on the basis of these consolidated financial statements.

As part of an audit in accordance with the Law of 23 July 2016 and with ISAs as adopted for Luxembourg by the CSSF, we exercise professional judgment and maintain professional skepticism throughout the audit. We also:

- Identify and assess the risks of material misstatement of the consolidated financial statements, whether due to fraud or error, design and perform audit procedures responsive to those risks, and obtain audit evidence that is sufficient and appropriate to provide a basis for our opinion. The risk of not detecting a material misstatement resulting from fraud is higher than for one resulting from error, as fraud may involve collusion, forgery, intentional omissions, misrepresentations, or the override of internal control.

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- Obtain an understanding of internal control relevant to the audit in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the Group's internal control.

- Evaluate the appropriateness of accounting policies used and the reasonableness of accounting estimates and related disclosures made by the Board of Directors.

- Conclude on the appropriateness of Board of Directors' use of the going concern basis of accounting and, based on the audit evidence obtained, whether a material uncertainty exists related to events or conditions that may cast significant doubt on the Group's ability to continue as a going concern. If we conclude that a material uncertainty exists, we are required to draw attention in our report of the "réviseur d'entreprises agréé" to the related disclosures in the consolidated financial statements or, if such disclosures are inadequate, to modify our opinion. Our conclusions are based on the audit evidence obtained up to the date of our report of the "réviseur d'entreprises agréé". However, future events or conditions may cause the Group to cease to continue as a going concern.

- Evaluate the overall presentation, structure and content of the consolidated financial statements, including the disclosures, and whether the consolidated financial statements represent the underlying transactions and events in a manner that achieves fair presentation.

- Obtain sufficient appropriate audit evidence regarding the financial information of the entities and business activities within the Group to express an opinion on the consolidated financial statements. We are responsible for the direction, supervision and performance of the Group audit. We remain solely responsible for our audit opinion.

We communicate with those charged with governance regarding, among other matters, the planned scope and timing of the audit and significant audit findings, including any significant deficiencies in internal control that we identify during our audit.

Report on other legal and regulatory requirements

The consolidated management report is consistent with the consolidated financial statements and has been prepared in accordance with applicable legal requirements.

Ernst & Young
Société anonyme
Cabinet de révision agréé

Áine Hearty

Luxembourg, 28 February 2018

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Consolidated statement of operations

for the year ended December 31
(in € millions, except share and per share data)

	Note	2015	2016	2017
Revenue	4	1,940	2,952	4,090
Cost of revenue		1,714	2,551	3,241
Gross profit		**226**	**401**	**849**
Research and development		136	207	396
Sales and marketing		219	368	567
General and administrative		106	175	264
		461	**750**	**1,227**
Operating loss		**(235)**	**(349)**	**(378)**
Finance income	9	36	152	118
Finance costs	9	(26)	(336)	(974)
Share in (losses)/earnings of associates and joint ventures		—	(2)	1
Finance income/(costs) - net		**10**	**(186)**	**(855)**
Loss before tax		**(225)**	**(535)**	**(1,233)**
Income tax expense	10	5	4	2
Net loss attributable to owners of the parent		**(230)**	**(539)**	**(1,235)**
Net loss per share attributable to owners of the parent				
Basic and diluted	11	(64.81)	(145.31)	(325.71)
Weighted-average ordinary shares outstanding				
Basic and diluted	11	3,548,665	3,709,218	3,791,719

The accompanying notes are an integral part of these consolidated financial statements.

Consolidated statement of comprehensive loss

for the year ended December 31
(in € millions)

	Note	2015	2016	2017
Net loss attributable to owners of the parent		**(230)**	**(539)**	**(1,235)**
Other comprehensive loss:				
Items that may be subsequently reclassified to consolidated statement of operations (net of tax):				
Loss in the fair value of available for sale financial assets	**22**	—	(4)	(12)
Exchange differences on translation of foreign operations		—	(12)	(3)
Other comprehensive loss for the year (net of tax)		—	**(16)**	**(15)**
Total comprehensive loss for the year attributable to owners of the parent		**(230)**	**(555)**	**(1,250)**

The accompanying notes are an integral part of these consolidated financial statements.

Consolidated statement of financial position

As at December 31
(in € millions)

	Note	As at January 1, 2016	2016	2017
Assets				
Non-current assets				
Property and equipment	12	81	85	73
Intangible assets including goodwill	13	73	80	162
Investment in associates and joint ventures	25	1	—	1
Long term investment	22	—	—	910
Restricted cash and other non-current assets	14	21	23	54
Deferred tax assets	10	4	3	9
		180	**191**	**1,209**
Current assets				
Trade and other receivables	15	244	300	360
Income tax receivable	10	3	6	—
Short term investments	22	—	830	1,032
Cash and cash equivalents	22	597	755	477
Other current assets		27	18	29
		871	**1,909**	**1,898**
Total assets		**1,051**	**2,100**	**3,107**
Equity/(Deficit) and liabilities				
Equity/(Deficit)				
Share capital	16	—	—	—
Other paid in capital	16	797	830	2,488
Other reserves	16	85	122	177
Accumulated deficit		(653)	(1,192)	(2,427)
Equity/(Deficit) attributable to owners of the parent		**229**	**(240)**	**238**
Non-current liabilities				
Convertible notes	18, 22	—	1,106	944
Accrued expenses and other liabilities	20	16	10	56
Provisions	21	8	4	6
Deferred tax liabilities	10	—	—	3
		24	**1,120**	**1,009**
Current liabilities				
Trade and other payables	19	119	201	341
Income tax payable	10	5	6	9
Deferred revenue	4	92	149	216
Accrued expenses and other liabilities	20	485	673	881
Provisions	21	15	57	59
Derivative liabilities	22	82	134	354
		798	**1,220**	**1,860**
Total liabilities		**822**	**2,340**	**2,869**
Total equity/(deficit) and liabilities		**1,051**	**2,100**	**3,107**

The accompanying notes are an integral part of these consolidated financial statements.

Consolidated statement of changes in equity/(deficit)

(in € millions, except share data)

	Note	Number of ordinary shares	Share capital	Other paid in capital	Other reserves	Accumulated deficit	Equity/ (Deficit) attributable to owners of the parent
Balance at January 1, 2015		**3,394,815**	**—**	**404**	**55**	**(423)**	**36**
Loss for the year			—	—	—	(230)	(230)
Issuance of shares upon exercise of stock options and restricted stock units	16	20,574	—	6	—	—	6
Issuance of shares, net of costs	16	237,122	—	387	—	—	387
Share-based payments	17		—	—	29	—	29
Income tax impact associated with share-based payments	10		—	—	1	—	1
Balance at December 31, 2015		**3,652,511**	**—**	**797**	**85**	**(653)**	**229**
Loss for the year			—	—	—	(539)	(539)
Other comprehensive loss			—	—	(16)	—	(16)
Issuance of shares upon exercise of stock options and restricted stock units	16	95,589	—	33	—	—	33
Share-based payments	17		—	—	53	—	53
Balance at December 31, 2016		**3,748,100**	**—**	**830**	**122**	**(1,192)**	**(240)**
Loss for the year			—	—	—	(1,235)	(1,235)
Other comprehensive loss			—	—	(15)	—	(15)
Issuance of shares upon exercise of stock options and restricted stock units	16	43,077	—	29	—	—	29
Issuance of shares related to business combinations	5	11,051	—	33	—	—	33
Issuance of restricted share awards related to business combination	5	1,547	—	—	—	—	—
Issuance of shares upon exchange of Convertible Notes	22	163,874	—	686	—	—	686
Issuance of shares in exchange for long term investment	22	213,811	—	910	—	—	910
Share-based payments	17		—	—	67	—	67
Income tax impact associated with share-based payments	10		—	—	3	—	3
Balance at December 31, 2017		**4,181,460**	**—**	**2,488**	**177**	**(2,427)**	**238**

The accompanying notes are an integral part of these consolidated financial statements.

Consolidated statement of cash flows

for the year ended December 31
(in € millions)

	Note	2015	2016	2017
Operating activities				
Net loss		(230)	(539)	(1,235)
Adjustments to reconcile net loss to net cash flows				
Depreciation of property and equipment	**12**	26	32	46
Amortization of intangible assets	**13**	4	6	8
Share-based payments expense	**17**	28	53	65
Impairment loss on trade receivables	**15**	—	15	—
Finance income	**9**	(36)	(152)	(118)
Finance costs	**9**	26	336	974
Income tax expense	**10**	5	4	2
Share in losses/(earnings) of associates and joint ventures		—	2	(1)
Net foreign exchange (gains)/losses		(33)	43	(3)
Changes in working capital:				
Increase in trade receivables and other assets		(121)	(60)	(112)
Increase in trade and other liabilities		251	245	447
Increase in deferred revenue		25	77	77
Increase in provisions		20	38	8
Interest received		2	5	19
Interest paid		(1)	—	—
Income tax (received)/paid		(4)	(4)	2
Net cash flows (used in)/from operating activities		**(38)**	**101**	**179**
Investing activities				
Business combinations, net of cash acquired	**5**	(7)	(7)	(49)
Investment in associates and joint ventures	**25**	(1)	(1)	—
Purchases of property and equipment	**12**	(44)	(27)	(36)
Purchases of intangibles	**13**	(5)	(3)	(10)
Purchases of short term investments	**22**	—	(1,397)	(1,386)
Sales and maturities of short term investments	**22**	—	609	1,080
Change in restricted cash	**14**	(10)	(1)	(34)
Net cash flows used in investing activities		**(67)**	**(827)**	**(435)**
Financing activities				
Finance lease payments		(4)	(5)	(4)
Proceeds from issuance of Convertible Notes, net of costs	**18**	—	861	—
Proceeds from issuance of new shares, net of costs	**16**	474	—	—
Proceeds from issuance of warrants	**16**	—	27	9
Proceeds from exercise of share options	**17**	6	33	29
Net cash flows from financing activities		**476**	**916**	**34**
Net increase/(decrease) in cash and cash equivalents		**371**	**190**	**(222)**
Cash and cash equivalents at January 1	**22**	206	597	755
Net foreign exchange gains/(losses) on cash and cash equivalents		20	(32)	(56)
Cash and cash equivalents at December 31	**22**	**597**	**755**	**477**
Supplemental disclosure of cash flow information				
Non-cash investing and financing activities				
Issuance of shares for business combinations	**5**	—	—	33
Purchases of property and equipment in trade and other payables	**12**	1	1	5
Non-cash share-based payments related to internal development costs	**13**	1	—	2
Issuance of shares upon exchange of Convertible Notes	**22**	—	—	686
Issuance of shares in exchange for long term investment	**22**	—	—	910

The accompanying notes are an integral part of these consolidated financial statements.

Notes to the 2017 consolidated financial statements

1. Corporate information

Spotify Technology S.A. (the "Company") is a private limited company incorporated and domiciled in Luxembourg. The Company's registered office is 42-44 avenue de la Gare, L1610, Luxembourg.

The principal activity of the Company and its subsidiaries (the "Group") is music streaming. The Group's premium service ("Premium Service") provides users with unlimited online and offline high-quality streaming access to its catalog. The Premium Service offers a commercial-free music experience. The Group's ad-supported service ("Ad-Supported Service," and together with its Premium Service, its "Service") has no subscription fees and provides users with limited on-demand online access to the catalog. The Group depends on securing content licenses from a number of major and minor content owners and other rights holders in order to provide its service.

The consolidated financial statements of the Group for the year ended December 31, 2017 were authorized for issue with a resolution of the directors on February 28, 2018. Under Luxembourg law, the consolidated financial statements are approved by the shareholders at the annual general meeting.

2. Summary of significant accounting policies

The principal accounting policies applied in the preparation of these consolidated financial statements are set out below. These policies have been consistently applied to all the years presented, unless otherwise stated.

(a) Basis of preparation

The consolidated financial statements of Spotify Technology S.A. comply with International Financial Reporting Standards ("IFRS") as issued by the International Accounting Standards Board ("IASB") and have been prepared on a historical cost basis, except for securities, long term investment, convertible senior notes ("Convertible Notes"), and derivative financial instruments, which have been measured at fair value. The consolidated financial statements are also in compliance with IFRS as endorsed by the European Union ("EU") for all periods presented.

The consolidated financial statements have been prepared on the basis of a full retrospective application of IFRS 15, *Revenue from Contracts with Customers*, with an adoption date as of January 1, 2017.

The preparation of the consolidated financial statements in conformity with IFRS requires the application of certain critical accounting estimates. It also requires management to exercise its judgment in the process of applying the accounting policies. The areas involving a greater degree of judgment or complexity, or areas in which assumptions and estimates are significant to the consolidated financial statements, are disclosed in Note 3.

The consolidated financial statements provide comparative information in respect of the previous periods.

(b) Basis of consolidation

Subsidiaries are all entities over which the Group has control. The Group controls an entity when the Group is exposed to, or has rights to, variable returns from its involvement with the entity and has the ability to affect those returns through its power over the entity. Subsidiaries are consolidated from the date on which control is transferred to the Group. They are deconsolidated from the date that control ceases.

(c) Investment in associates and joint ventures

An associate is an entity over which the Group has significant influence but not control or joint control.

A joint venture is a type of joint arrangement whereby the parties that have joint control of the arrangement have rights to the net assets of the joint venture. Joint control is the contractually agreed sharing of control of an arrangement, which exists only when decisions about the relevant activities require unanimous consent of the parties sharing control.

The Group accounts for its investments in associates and joint ventures using the equity method whereby the investment is initially recognized at cost. The carrying amount of the investment is adjusted to recognize changes in the Group's share of net assets of the associates and joint ventures since the acquisition date.

The Group determines, at each reporting date, whether there is objective evidence that the investment in its associated companies or joint ventures is impaired. If there is such evidence, the Group calculates the amount of impairment as the difference between the recoverable amount and the carrying amount of the investment. Any gain or loss resulting from the dilution of the Group's interest in associates and joint ventures where significant influence and joint control, respectively, is retained is recognized in the consolidated statement of operations in "Share in earnings of associates and joint ventures."

(d) Foreign currency translation

Functional and reporting currency

Items included in the financial statements of each of the Group's entities are measured using the currency of the primary economic environment in which the entity operates The consolidated financial statements are presented in Euro, which is the Group's reporting currency.

Transactions and balances

Foreign currency transactions are translated into the functional currency using the exchange rates prevailing at the dates of the transactions. Foreign exchange gains and losses resulting from the settlement of such transactions and from the translation of monetary assets and liabilities denominated in foreign currencies at year-end exchange rates are recognized in the consolidated statement of operations within finance income or finance costs.

Group companies

The results and financial position of all the Group entities that have a functional currency different from the presentation currency are translated into Euro as follows:

- Assets and liabilities are translated at the closing rate at the reporting date;
- Income and expenses for each statement of operation are translated at average exchange rates; and
- All resulting exchange differences are recognized in other comprehensive income/(loss).

Goodwill and fair value adjustments arising on the acquisition of a foreign operation are treated as assets and liabilities of the operation and translated at the closing rate at each reporting date.

(e) Revenue recognition

Accounting policies for the Group's revenues are explained in Note 4.

(f) Advertising credits

Advertising credits are issued to certain rights holders that are not transferable and that allow them to include advertisement on the Ad-Supported Service that promote their artists and the Spotify service, such as the availability of a new single or album on Spotify. These are issued in conjunction with the Group's royalty arrangements for nil consideration. There is no revenue recognized as the advertising credits are mutually beneficial to both the rights holders and the Group and do not meet the definition of a revenue contract under IFRS 15, *Revenue from Contracts with Customers.*

(g) Business combinations

Business combinations are accounted for using the acquisition method. Identifiable assets acquired and liabilities assumed are measured initially at their fair values at the acquisition date. The excess of the consideration transferred, and the acquisition-date fair value of any previous equity interest in the acquiree over the fair value of the identifiable net assets acquired is recognized as goodwill.

Acquisition-related costs, other than those incurred for the issuance of debt or equity instruments, are charged to the consolidated statement of operations as they are incurred.

(h) Cost of revenue

Cost of revenue consists predominately of royalty and distribution costs related to content streaming. The Group incurs royalty costs paid to certain music record labels, music publishers, and other rights holders for the right to stream music to the Group's users. Royalties are typically calculated using negotiated rates in accordance with license agreements and are based on either subscription and advertising revenue earned, user/usage measures, or a combination of these. The determination of the amount of the rights holders' liability is complex and subject to a number of variables, including the revenue recognized, the type of content streamed and the country in which it is streamed, the service tier such content is streamed on, identification of the appropriate license holder, size of user base, ratio of Ad-Supported Users to Premium Subscribers, and any applicable advertising fees and discounts, among other variables. Some rights holders have allowed the use of their content on the platform while negotiations of the terms and conditions are ongoing. In such situations, royalties are calculated using estimated rates. In certain jurisdictions, rights holders have several years to claim royalties for musical compositions and therefore estimates of the royalties payable are made until payments are made. The Group has certain arrangements whereby royalty costs are paid in advance or are subject to minimum guaranteed amounts. An accrual is established when actual royalty costs to be incurred during a contractual period are expected to fall short of the minimum guaranteed amounts. For minimum guarantee arrangements for which the Group cannot reliably predict the underlying expense, the Group will expense the minimum guarantee on a straight-line basis over the term of the arrangement. The Group also has certain royalty arrangements where the Group would have to make additional payments if the royalty rates were below those paid to other similar licensors (most favored nation clauses). For rights holders with this clause, a comparison is done of royalties incurred to date plus estimated royalties payable for the remainder of the period to estimates of the royalties payables to other appropriate rights holders, and the shortfall, if any, is recognized on a straight-line basis over the period of the applicable most favored nation clause. An accrual and expense is recognized when it is probable that the Group will make additional royalty payments under these terms. The expense related to these accruals is recognized in cost of revenue. Cost of revenue also includes credit card and payment processing fees for subscription revenue, customer service, certain employee compensation and benefits, cloud computing, streaming, facility, and equipment costs, as well as amounts incurred to produce content for the service.

(i) Research and development expenses

Research and development expenses are primarily comprised of costs incurred for development of products related to the Group's platform and service, as well as new advertising products and improvements to the Group's mobile app, desktop, and streaming services. The costs incurred include related employee compensation and benefits, facility costs, and consulting costs.

(j) Sales and marketing expenses

Sales and marketing expenses are primarily comprised of employee compensation and benefits, events and trade shows, public relations, branding, consulting expenses, customer acquisition costs, advertising, the cost of working with record labels and artists to promote the availability of new releases on the Group's platform, and the costs of providing free trials of the Premium Service. Expenses included in the costs of providing free trials are primarily derived from per user royalty fees determined in accordance with the rights holder agreements.

(k) General and administrative expenses

General and administrative expenses are comprised primarily of employee compensation and benefits for functions such as finance, accounting, analytics, legal, human resources, consulting fees, and other costs including facility and equipment costs.

(l) Income tax

The tax expense for the period comprises current and deferred tax. Tax is recognized in the consolidated statement of operations except to the extent that it relates to a business combination, or items recognized directly in equity or in other comprehensive income.

(i) *Current tax*

Current tax comprises the expected tax payable or receivable on the taxable income or loss for the year and any adjustment to tax payable or receivable in respect of previous years. It is measured using tax rates enacted or substantively enacted at the reporting date.

(ii) *Deferred tax*

Deferred tax is recognized in respect of temporary differences between the carrying amounts of assets and liabilities for financial reporting purposes and the amounts used for taxation purposes. Deferred tax is not recognized for:

- Temporary differences on the initial recognition of assets or liabilities in a transaction that is not a business combination and that affects neither accounting nor taxable profit or loss;
- Temporary differences related to investments in subsidiaries, associates, and joint ventures to the extent that the Group is able to control the timing of the reversal of the temporary differences, and it is probable that they will not reverse in the foreseeable future; and
- Taxable temporary differences arising on the initial recognition of goodwill.

Deferred tax assets are recognized for unused tax losses, unused tax credits, and deductible temporary differences to the extent that it is probable that future taxable profits will be available, against which they can be used. Deferred tax assets are reviewed at each reporting date and are reduced to the extent that it is no longer probable that the related tax benefit will be realized.

Deferred tax is measured at the tax rates that are expected to be applied to temporary differences when they reverse, using tax rates enacted or substantively enacted at the reporting date. The measurement of deferred tax reflects the tax consequences that would follow from the manner in which the Group expects, at the reporting date, to recover or settle the carrying amount of its assets and liabilities.

Deferred tax assets and liabilities are offset only if certain criteria are met.

(iii) *Uncertain tax positions*

In determining the amount of current and deferred income tax, the Group takes into account the impact of uncertain tax positions and whether additional taxes, interest or penalties may be due. This assessment relies on estimates and assumptions and may involve a series of judgments about future events. New information may become available that causes the Group to change its judgment regarding the adequacy of existing tax liabilities. Such changes to tax liabilities will impact tax expense in the period that such a determination is made.

(m) Property and equipment

Property and equipment are stated at historical cost less accumulated depreciation and any accumulated impairment losses. Historical cost includes any expenditure that is directly attributable to bringing the asset to the location and condition necessary for it to be capable of operating in the manner intended by the Group.

The Group adds to the carrying amount of an item of property and equipment the cost of replacing parts of such an item if the replacement part is expected to provide incremental future benefits to the Group. All repairs and maintenance are charged to the consolidated statement of operations during the period in which they are incurred.

Depreciation is charged so as to allocate the cost of assets less their residual value over their estimated useful lives, using the straight-line method as follows:

- Property and equipment: 3 to 5 years
- Leasehold improvements: shorter of the lease term or useful life

The assets' residual values, useful lives, and depreciation methods are reviewed annually and adjusted prospectively if there is an indication of a significant change. An asset's carrying amount is written down immediately to its recoverable amount if the asset's carrying amount is greater than its estimated recoverable amount.

Gains and losses on disposals are determined by comparing the proceeds with the carrying amount and are recognized in the consolidated statement of operations when the asset is derecognized.

(n) Intangible assets

Acquired intangible assets other than goodwill comprise acquired developed technology and patents. At initial recognition, intangible assets acquired in a business combination are recognized at their fair value as of the date of acquisition. Following initial recognition, intangible assets are carried at cost less accumulated amortization and impairment losses.

The Group recognizes internal development costs as intangible assets only when the following criteria are met: the technical feasibility of completing the intangible asset exists, there is an intent to complete and an ability to use or sell the intangible asset, the intangible asset will generate probable future economic benefits, there are adequate resources available to complete the development and to use or sell the intangible asset, and there is the ability to reliably measure the expenditure attributable to the intangible asset during its development.

Intangible assets with finite lives are amortized on a straight-line basis over their estimated useful lives, typically 2 to 5 years and are assessed for impairment whenever there is an indication that the intangible asset may be impaired. The amortization period and the amortization method for an intangible asset are reviewed at least annually. Changes in the expected useful life or the expected pattern of consumption of future economic benefits embodied in the asset is accounted for by changing the amortization period or method, as appropriate, and are treated as changes in accounting estimates. The amortization of intangible assets is recognized in the consolidated statement of operations in the expense category consistent with the function of the intangible assets.

(o) Goodwill

Goodwill is the excess of the aggregate of the consideration transferred and the amount recognized for non-controlling interest over the net identifiable assets acquired and liabilities assumed. Goodwill is tested annually for impairment, or more regularly if certain indicators are present. For the purpose of impairment testing, goodwill acquired in a business combination is allocated to each of the operating segments that are expected to benefit from the synergies of the combination and represent the lowest level at which the goodwill is monitored for internal management purposes. Goodwill is evaluated for impairment by comparing the recoverable amount of the Group's operating segments to the carrying amount of the operating segments to which the goodwill relates. If the recoverable amount is less than the carrying amount an impairment charge is determined.

The recoverable amount of the operating segments is based on fair value less costs of disposal. The Group believes reasonable estimates and judgments have been used in assessing the recoverable amounts.

(p) Impairment of non-financial assets

Assets that are subject to depreciation or amortization are reviewed for impairment whenever events or changes in circumstances indicate that the carrying value may not be recoverable. An impairment loss is recognized in the consolidated statement of operations consistent with the function of the assets, for the amount by which the asset's carrying amount exceeds its recoverable amount. The recoverable amount is the higher of an asset's fair value less costs of disposal and value in use. For the purposes of assessing impairment, assets are grouped at the lowest levels for which there are largely independent cash inflows. Prior impairments of non-financial assets (other than goodwill) are reviewed for possible reversal each reporting period.

(q) Financial instruments

(i) *Financial assets*

Initial recognition and measurement

The Group's financial assets are comprised of cash and cash equivalents, short term investments, trade and other receivables, a long term investment, restricted cash, and other non-current assets. All financial assets are recognized initially at fair value plus transaction costs that are attributable to the acquisition of the financial asset. Purchases and sales of financial assets are recognized on the settlement date; the date that the Group receives or delivers the asset. The Group classifies its financial assets primarily as cash and cash equivalents, receivables and available for sale financial assets. Receivables are non-derivative financial assets, other than short term and long term investments described below, with fixed or determinable payments that are not quoted in an active market. They are included in current assets except for those with maturities greater than 12 months after the reporting period.

For more information on receivables, refer to Note 15.

Short term investments classified as available for sale financial assets are those that are neither classified as held for trading nor designated at fair value through the consolidated statement of operations. The securities in this category are those that are intended to be held for an indefinite period of time and that may be sold in response to needs for liquidity or in response to changes in the market conditions (therefore not recognized at amortized cost). These are classified as current assets.

Long term investments classified as available for sale financial assets are those that are neither classified as held for trading nor designated at fair value through the consolidated statement of operations. The security within this category is intended to be held for an indefinite period of time and for strategic investment purposes. It is classified as a non-current asset.

Subsequent measurement

After initial measurement, available for sale financial assets are measured at fair value with unrealized gains or losses recognized in other comprehensive income and credited in other reserves within equity until the investment is derecognized, at which time, the cumulative gain or loss is recognized in finance income/ costs, or the investment is determined to be impaired, when the cumulative loss is reclassified from the available for sale reserve to the consolidated statement of operations in finance costs. Interest earned whilst holding available for sale financial assets is reported as interest income using the effective interest method.

Derecognition

Financial assets are derecognized when the rights to receive cash flows from the asset have expired, or the Group has transferred its rights to receive cash flows from the asset or has assumed an obligation to pay the received cash flows in full.

Impairment of financial assets

The Group assesses at each reporting date whether there is any objective evidence that a financial asset or a group of financial assets is impaired. A financial asset is considered impaired if objective evidence indicates that one or more events have had a negative effect on the estimated future cash flow of that asset. Evidence of impairment include that debtors, individually or collectively, default in payments or other indications that they experience significant financial difficulty, including the probability of entering bankruptcy or other financial reorganization, or a significant or prolonged decline in the fair value of an investment below its cost. 'Significant' is evaluated against the original cost of the investment and 'prolonged' against the period in which the fair value has been below its original cost.

If there is evidence of impairment for any of the Group's financial assets carried at amortized cost, the amount of the loss is measured as the difference between the asset's carrying amount and the present value of estimated future cash flows (excluding future credit losses that have not been incurred) discounted at the asset's original effective interest rate. The carrying amount of the asset is reduced

through the use of an allowance account and the amount of the loss is recognized in the consolidated statement of operations.

In the case of investments classified as available for sale, the impairment is assessed based on the same criteria as financial assets carried at amortized cost. However, the amount recorded for impairment is the cumulative loss measured as the difference between the amortized cost and the current fair value, less any impairment loss on that investment previously recognized in the consolidated statement of operations.

Future interest income continues to be accrued based on the reduced carrying amount of the asset, using the rate of interest used to discount the future cash flows for the purpose of measuring the impairment loss. The interest income is recorded as part of finance income.

For impairment losses recognized, if, in a subsequent period, the amount of the impairment loss decreases and the decrease can be related objectively to an event occurring after the impairment was recognized, the reversal of the previously recognized impairment loss is recognized in the consolidated statement of operations.

(ii) *Financial liabilities*

Initial recognition and measurement

The Group's financial liabilities are comprised of trade and other payables, other liabilities (borrowings and finance lease payments), Convertible Notes, and derivative liabilities (contingent options and warrants). All financial liabilities are recognized initially at fair value and, in the case of Convertible Notes and borrowings, net of directly attributable transaction costs.

The Group accounts for the Convertible Notes in accordance with IAS 39, *Financial Instruments: Recognition and Measurement*, 'fair value option'. Under this approach, the Convertible Notes are accounted for in their entirety at fair value, with any change in fair value after initial measurement being recorded in the consolidated statement of operations and the transaction costs were effectively immediately expensed.

The Group accounts for the warrants as a financial liability at fair value. In accordance with IAS 32, *Financial Instruments: Presentation*, the Group determined that the warrants were precluded from equity classification, because while they contain no contractual obligation to deliver cash or other financial instruments to the holders other than the Company's own shares, the exercise prices of the warrants are in US$ and not the Company's functional currency. Therefore, the warrants do not meet the requirements that they be settled by the issuer exchanging a fixed amount of cash or another financial asset for a fixed number of its own equity instruments.

Subsequent measurements

Other financial liabilities

After initial recognition, payables and borrowings are subsequently measured at amortized cost using the effective interest method. The effective interest method amortization is included in finance costs in the consolidated statement of operations. Gains and losses are recognized in the consolidated statement of operations when the liabilities are derecognized.

Payables and borrowings are classified as current liabilities unless the Group has an unconditional right to defer settlement of the liability for at least 12 months after the reporting date.

Fees paid to secure loan facilities are recognized as transaction costs of the loan to the extent that it is probable that some or all of the facility will be drawn down. The fee is deferred until the drawdown occurs. To the extent there is no evidence that it is probable that some or all of the facility will be drawn down, the fee is capitalized as pre-payment for liquidity services and amortized over the period of the facility.

Financial liabilities at fair value through profit or loss

After initial recognition, financial liabilities at fair value through the profit or loss are subsequently remeasured at fair value at the end of each reporting period with changes in fair value recognized in finance income or finance costs in the consolidated statement of operations.

Derecognition

Financial liabilities are derecognized when the obligation under the liability is discharged, cancelled, or expires.

(iii) *Fair value measurements*

For financial assets and liabilities measured at fair value on a recurring basis, fair value is the price the Group would receive to sell an asset or pay to transfer a liability in an orderly transaction with a market participant at the measurement date. In the absence of active markets for identical assets or liabilities, such measurements involve developing assumptions based on market observable data and, in the absence of such data, internal information that is consistent with what market participants would use in a hypothetical transaction that occurs at the measurement date. Observable inputs reflect market data obtained from independent sources, while unobservable inputs reflect the Group's market assumptions. All assets and liabilities for which fair value is measured or disclosed in the consolidated financial statements are categorized within the fair value hierarchy, described as follows, based on the lowest level input that is significant to the fair value measurement as a whole:

- Level 1: quoted (unadjusted) prices in active markets for identical assets or liabilities
- Level 2: other techniques for which inputs are based on quoted prices for identical or similar instruments in markets that are not active, quoted prices for similar instruments in active markets, and model-based valuation techniques for which all significant assumptions are observable in the market or can be corroborated by observable market data for substantially the full term of the asset or liability
- Level 3: techniques which use inputs that have a significant effect on the recognized fair value that require the Group to use its own assumptions about market participant assumptions

The Group maintains policies and procedures to determine the fair value of financial assets and liabilities using what it considers to be the most relevant and reliable market participant data available. It is the Group's policy to maximize the use of observable inputs in the measurement of its Level 3 fair value measurements. To the extent observable inputs are not available, the Group utilizes unobservable inputs based upon the assumptions market participants would use in valuing the asset or liability. In determining the fair value of financial assets and liabilities employing Level 3 inputs, the Group considers such factors as the current interest rate, equity market, currency and credit environments, expected future cash flows, the probability of certain future events occurring, and other published data. The Group performs a variety of procedures to assess the reasonableness of its fair value determinations including the use of third parties.

(iv) *Foreign exchange forward contracts*

Beginning in 2017, the Group began entering into multiple foreign exchange forward contracts. The Group designated certain foreign exchange forward contracts as cash flow hedges when all the requirements in IAS 39 *Financial Instruments* are met. The Group recognizes the activities from these cash flow hedges as either assets or liabilities on the statement of financial position and are measured at fair value at each reporting period. The Group reflects the gain or loss on the effective portion of a cash flow hedge as a component of equity and subsequently reclassifies cumulative gains and losses to revenues or cost of revenues, depending on the risk hedged, when the hedged transactions are settled. If the hedged transactions become probable of not occurring, the corresponding amounts in other reserves are immediately reclassified to finance income or costs. Foreign exchange forward contracts that do not meet the requirements in IAS 39 *Financial Instruments* to be designated as a cash flow hedge, are classified as derivative instruments not designated for hedging. The Group measures these instruments at fair value with changes in fair value recognized in finance income or costs. Refer to Note 22.

(r) Cash and cash equivalents

Cash and cash equivalents comprise cash on deposit at banks and on hand and short term deposits with a maturity of three months or less from the date of purchase that are not subject to restrictions. Cash deposits that have restrictions governing their use are classified as restricted cash, current or non-current, based on the remaining length of the restriction.

The Group classifies highly liquid investments with maturities of three months or less at the date of purchase as cash equivalents.

For the purpose of the consolidated statement of cash flows, cash and cash equivalents consist of cash and short term deposits as defined above.

(s) Short term investments

The Group invests in a variety of instruments, such as commercial paper, money market funds, corporate debt securities, collateralized reverse purchase agreements, and government and government agency debt securities. Part of these investments are held in short duration fixed income portfolios. The average duration of these portfolios is two years. All investments are governed by an investment policy and are held in highly-rated counterparties. Separate credit limits are assigned to each counterparty in order to minimize risk concentration.

These investments are classified as available for sale securities and are carried at fair value with the unrealized gains and losses reported as a component of equity. Management determines the appropriate classification of investments at the time of purchase and reevaluates the available for sale designations as of each reporting date. The available for sale debt securities with maturities greater than twelve months are classified as short term when they are intended for use in current operations. The cost basis for investments sold is based upon the specific identification method.

(t) Long term investment

Long term investment consists of a non-controlling equity interest in a private company. The investment is classified as an available for sale financial asset and carried at fair value through other comprehensive income. Refer to Note 22.

(u) Share capital

Ordinary shares are classified as equity.

Equity instruments are initially measured at the fair value of the cash or other resources received or receivable, net of the direct costs of issuing the equity instruments.

For the years ended December 31, 2012, 2013, and 2015, the Group issued equity instruments that were part of a compound transaction whereby additional shares would be issued to the shareholders upon the occurrence of certain events (see Note 16). The embedded derivatives were separated from the host contract and the resulting derivative liabilities were initially measured at fair value. The derivative liabilities are remeasured at fair value through the consolidated statement of operations at each reporting period. The difference between the consideration received for the equity instruments and the fair value of the embedded derivatives represents the equity components of the transaction. Transaction costs are allocated to the liability derivatives and equity components in proportion to their initial carrying amounts.

(v) Share-based payments

Employees of the Group receive remuneration in the form of share-based payment transactions, whereby employees render services in consideration for equity instruments.

The cost of equity-settled transactions with employees is determined by the fair value at the date of grant using an appropriate valuation model. The cost is recognized in the consolidated statement of operations, together with a corresponding credit to other reserves in equity, over the period in which the performance and service conditions are fulfilled. The cost of equity-settled transactions with non-employees for which services are rendered over a vesting period is determined by the average fair value over the period the services are received.

The cumulative expense recognized for equity-settled transactions with employees at each reporting date until the vesting date reflects the Group's best estimate of the number of equity instruments that will ultimately vest. The expense for a period represents the movement in cumulative expense recognized at the beginning and end of that period, and is recognized in employee shared-based payments. When the terms of an equity-settled transaction award are modified, the minimum expense recognized is the expense as if the terms had not been modified, if the original terms of the award are met. An additional expense is recognized for modifications that increase the total fair value of the share-based payment transaction or are otherwise beneficial to the grantee as measured at the date of modification. There have been no material modifications to any share-based payment transactions during 2015, 2016, and 2017.

Social costs are payroll taxes associated with employee salaries and benefits, including share-based compensation. Social costs in connection with granted options and restricted stock units are accrued over the vesting period based on the intrinsic value of the award that has been earned at the end of each reporting period. The amount of the liability reflects the amortization of the award and the impact of expected forfeitures. The social cost rate at which the accrual is made generally follows the tax domicile within which other compensation charges for a grantee are recognized.

The assumptions and models used for estimating fair value for share-based payment transactions are disclosed in Note 17.

(w) Employee benefits

The Group provides defined contribution plans to its employees. The Group pays contributions to publicly and privately administered pension insurance plans on a mandatory or contractual basis. The Group has no further payment obligations once the contributions have been paid. Contributions to defined contribution plans are expensed when employees provide services. The Group's post-employment schemes do not include any defined benefit plans.

(x) Provisions

Provisions are recognized when the Group has a present obligation (legal or constructive) as a result of a past event, it is probable that an outflow of resources embodying economic benefits will be required to settle the obligation, and a reliable estimate can be made of the amount of the obligation.

(y) Leases

At inception of an arrangement, the Group determines whether the arrangement is or contains a lease. The Group leases certain items of property and equipment. Leases in which substantially all the risks and rewards of ownership are not transferred to the Group as lessee are classified as operating leases. Payments made under operating leases (net of any incentives received from the lessor) are charged to the consolidated statement of operations on a straight-line basis over the period of the leases.

Leases of property and equipment where the Group has substantially all the risks and rewards of ownership are classified as finance leases. Finance leases are capitalized at the lease's commencement at lower of the fair value of the leased property and the present value of the minimum lease payments. Each lease payment is allocated between the repayment of the liability and finance charges. The corresponding lease obligations, net of finance charges, are included in borrowings. The interest element of the finance cost is charged to the consolidated statement of operations over the lease period so as to produce a constant periodic rate of interest on the remaining balance of the liability for each period. The property and equipment acquired under finance leases is depreciated over the shorter of the useful life of the asset and the lease term.

New and amended standards and interpretations adopted by the Group

In May 2014, the IASB issued IFRS 15, *Revenue from Contracts with Customers*, which establishes principles for reporting information to users of financial statements about the nature, amount, timing, and uncertainty of revenue and cash flows arising from an entity's contracts with customers. Revenue is recognized when a customer obtains control of a good or service and thus has the ability to direct the use and obtain the benefits from the good or service. The standard replaces IAS 18, *Revenue*, and IAS 11, *Construction Contracts*, and related interpretations. The EU has endorsed the standard in September 2016. The Group adopted IFRS 15, and

all related amendments, on January 1, 2017 on a full retrospective basis. The 2015 and 2016 comparatives, in respect of IFRS 15, have been presented on a full retrospective basis as required. For further discussion of the Group's adoption of IFRS 15, see Note 4.

In January 2016, the IASB issued *Recognition of Deferred Tax Assets for Unrealised Losses (Amendments to IAS 12)* which amended IAS 12, *Income Taxes*. The amendments primarily were issued to clarify the recognition of deferred tax assets for unrealized losses related to debt instruments measured at fair value. The EU has endorsed the amendments in November 2017. The Group adopted these amendments on January 1, 2017 and it did not have a material impact on the consolidated financial statements.

In January 2016, the IASB issued *Disclosure Initiative (Amendments to IAS 7)* which amended IAS 7, *Statement of Cash Flows*. The amendments require entities to provide disclosures that enable users of financial statements to evaluate changes in liabilities arising from financing activities. The EU has endorsed the amendments in November 2017. The Group adopted these amendments on January 1, 2017 and it did not have a material impact on the consolidated financial statements. The enhanced presentation requirements under the amendments are disclosed in Note 22.

New standards and interpretations issued not yet effective

Recently issued new or revised/amended standards and interpretations effective for the Group on or after January 1, 2018, are as follows:

In July 2014, the IASB published the final version of IFRS 9, *Financial Instruments*, which reflects all phases of the financial instruments project and replaces IAS 39, *Financial Instruments: Recognition and Measurement*, and all previous versions of IFRS 9, *Financial Instruments*. The standard introduces new requirements for classification and measurement, impairment, and hedge accounting. IFRS 9 is effective for annual periods beginning on or after January 1, 2018, with early application permitted. Retrospective application is required, but restatement of comparative information may only be done if possible without the use of hindsight. The EU has endorsed the standard in November 2016. Upon adoption, the Group will designate its long term investment as an equity instrument measured at fair value through other comprehensive income with gains and losses remaining in other comprehensive income without recycling to profit or loss upon derecognition. Upon adoption on January 1, 2018, the Group does not expect *IFRS 9, Financial Instruments* to have any additional material impact on the consolidated financial statements.

In January 2016, the IASB published IFRS 16, *Leases*, its new leasing standard, which will replace the current guidance in IAS 17, *Leases*, and related interpretations IFRIC 4, SIC-15 and SIC-27. The new standard requires lessees to recognize a lease liability reflecting future lease payments and a 'right-of-use asset' for virtually all lease contracts. The standard applies to annual periods beginning on or after January 1, 2019, with earlier application permitted. The EU has endorsed the standard in October 2017. The Group expects the valuation of right-of-use assets and lease liabilities, previously described as operating leases, to be the present value of its forecasted future lease commitments. The Group will be required to separately recognize the interest expense on the lease liability and the depreciation expense on the right-of-use asset. Since the Group has a significant amount of minimum lease commitments (see Note 23), the new standard is expected to have a material impact on the consolidated statement of financial position upon adoption. The Group is continuing to assess the impact of the new standard.

In June 2016, the IASB issued three amendments to IFRS 2, *Share-based Payment*, in relation to the classification and measurement share-based payment transactions. The amendments are intended to eliminate diversity in practice in three main areas: (i) the effects of vesting conditions on the measurement of a cash-settled share-based payment transaction, (ii) the classification of a share-based payment transaction with net settlement features for withholding tax obligations, and (iii) the accounting where a modification to the terms and conditions of a share-based payment transaction changes its classification from cash-settled to equity-settled. The amendments are effective for accounting periods beginning on or after January 1, 2018. The amendments are required to be applied without restating prior periods, but retrospective application is permitted if elected for all three amendments and other criteria are met. The EU has not yet endorsed the amendments. The Group does not expect the amendments to IFRS 2, *Share-based Payment*, to have any material impact on the consolidated financial statements.

There are no other IFRS or IFRIC interpretations that are not effective that are expected to have a material impact.

3. Critical accounting estimates and judgments

The preparation of the consolidated financial statements requires management to make judgments, estimates, and assumptions that affect the reported amounts of revenues, expenses, assets, liabilities, and equity in the consolidated financial statements and the accompanying disclosures. Estimates and judgments are continually evaluated and are based on historical experience and other factors, including expectations of future events.

Uncertainty about these assumptions and estimates could result in outcomes that require a material adjustment to the carrying amount of assets or liabilities affected in future periods.

The areas where assumptions and estimates are significant to the consolidated financial statements are:

(i) The Group measures the cost of equity-settled transactions with employees and non-employees by reference to the fair value of the equity instruments at the date at which they are granted. The fair value is estimated using a model which requires the determination of the appropriate inputs. The assumptions and models used for estimating the fair value of share-based payment transactions are disclosed in Note 17.

(ii) The fair value of the Group's Convertible Notes, warrants, contingent options, and long term investment are estimated using valuation techniques using inputs based on management's judgment and conditions that existed at each reporting date. The assumptions and models used for estimating the fair value of the instruments are disclosed in Note 22.

(iii) The Group has fiscal loss carry-forwards. At period end, the Group investigates the possibility of recognizing deferred tax assets with regard to the loss carry-forwards. Deferred tax assets related to loss carry-forwards are recognized only in those cases where it is probable and there is convincing evidence that the Group will generate future taxable income to which the loss carry-forward can be utilized. See Note 10.

(iv) In business combinations, the Group allocates the fair value of purchase consideration to the tangible assets acquired, liabilities assumed, and intangible assets acquired based on their estimated fair values. The excess of the fair value of purchase consideration over the fair values of these identifiable assets and liabilities is recorded as goodwill. Such valuations require management to make significant estimates and assumptions, especially with respect to intangible assets. See Note 5.

(v) In accordance with the accounting policy described in Note 2, the Group annually performs an impairment test regarding goodwill. The fair value of the operating segments is estimated using valuation techniques using inputs based on management's judgment and conditions that existed at the testing date. The assumptions and models used for estimating the fair value are disclosed in Note 13.

(vi) The Group's agreements and arrangements with rights holders for the content used on its platform are complex. Some rights holders have allowed the use of their content on the platform while negotiations of the terms and conditions are ongoing. In certain jurisdictions, rights holders have several years to claim royalties for musical composition and therefore estimates of the royalty accruals are based on available information and historical trends. The determination of royalty accruals involves significant judgements, assumptions, and estimates of the amounts to be paid. See Note 20.

(vii) Management makes significant estimates and assumptions when determining the amounts to record for provision for legal contingencies. See Note 21.

The areas requiring a higher degree of judgment in applying accounting principles or complexity are:

(i) The Group determined that three of its equity arrangements included embedded derivatives due to the existence of a downside protection clause. The evaluation of the embedded derivatives for separation from the equity instrument required significant judgment and the consideration of whether the embedded derivative was closely related to the host contract. See Notes 16 and 22.

4. Revenue recognition

Adoption of IFRS 15, *Revenue from Contracts with Customers*

On January 1, 2017, the Group adopted IFRS 15, and all related amendments, using the full retrospective transition method. The standard establishes principles for reporting information to users of financial statements

about the nature, amount, timing, and uncertainty of revenue and cash flows arising from an entity's contracts with customers.

The main change in accounting policies as a result of the application of IFRS 15 is explained below. Such a change is made in accordance with the transitional provisions of IFRS 15.

The Group provides discounted trial periods for Premium Services where the cost of providing the service exceeds the amount received from the customer. Under IFRS 15, these arrangements meet the definition of a contract with a customer and therefore consideration received for discounted trial periods is recognized in revenue and the related costs are recognized as costs of revenue. Previously, the net loss relating to discounted trial periods was included in sales and marketing and no revenue or cost of revenue was recorded. The loss relating to free trials continues to be classified in sales and marketing.

The following tables summarize the adjustments posted in the Group's consolidated financial statements due to the retrospective application of IFRS 15.

Impact on consolidated statement of operations

	Impact of IFRS 15		
	2015 Pre-adoption	**Adjustments**	**2015 Post-adoption**
		(in € millions)	
Revenue	1,929	11	1,940
Cost of revenue	1,664	50	1,714
Gross profit	**265**	**(39)**	**226**
Sales and marketing	259	(40)	219
Operating loss	**(236)**	**1**	**(235)**
Loss before tax	**(226)**	**1**	**(225)**
Income tax expense	5	—	5
Net loss attributable to owners of the parent	**(231)**	**1**	**(230)**

	Impact of IFRS 15		
	2016 Pre-adoption	**Adjustments**	**2016 Post-adoption**
		(in € millions)	
Revenue	2,933	19	2,952
Cost of revenue	2,483	68	2,551
Gross profit	**450**	**(49)**	**401**
Sales and marketing	418	(50)	368
Operating loss	**(350)**	**1**	**(349)**
Loss before tax	**(536)**	**1**	**(535)**
Income tax expense	4	—	4
Net loss attributable to owners of the parent	**(540)**	**1**	**(539)**

	Impact of IFRS 15		
	2017 Pre-adoption	Adjustments	2017 Post-adoption
		(in € millions)	
Revenue	4,066	24	4,090
Cost of revenue	3,163	78	3,241
Gross profit	**903**	**(54)**	**849**
Sales and marketing	621	(54)	567
Operating loss	**(378)**	—	**(378)**
Loss before tax	**(1,233)**	—	**(1,233)**
Income tax expense	2	—	2
Net loss attributable to owners of the parent	**(1,235)**	—	**(1,235)**

The impact to the opening equity attributable to owners of the parent is not material.

Revenue from contracts with customers

(i) Disaggregated revenue

The Group discloses revenue by reportable segment and geographic area in Note 6.

(ii) Performance obligations

Subscription revenue

The Group generates subscription revenue from the sale of the Premium Service in which customers can listen on-demand and offline. Premium Services are sold directly to end users and through partners who are generally telecommunications companies that bundle the subscription with their own services or collect payment for the stand-alone subscriptions from their end customers. The Group satisfies its performance obligation, and revenue from these services is recognized, on a straight-line basis over the subscription period. Typically, Premium Services are paid in advance.

Premium partner services are based on a per-subscriber rate in a negotiated partner agreement and may include minimum guarantees for the number of subscriptions that will be purchased from the Group. Under these arrangements, a premium partner may bundle the Premium Service with its existing product offerings or offer the Premium Service as an add-on. Payment is remitted to the Group through the premium partner. When a minimum guarantee is within an agreement and the partner is not expected to meet the commitment, management has concluded the revenue is constrained to the revenue amounts for the actual subscriptions sold in a given period. The Group therefore only recognizes the associated revenue when it is highly probably that this will not result in a significant reversal of revenue when the uncertainty is resolved. The Group assesses the facts and circumstances, including whether the partner is acting as a principal or agent, of all partner revenue arrangements and then recognizes revenues either gross or net. Premium partner services, whether recognized gross or net, have one material performance obligation being the delivery of the Premium Service.

Advertising revenue

The Group's advertising revenue is primarily generated through display, audio, and video advertising delivered through advertising impressions. The Group enters into arrangements with advertising agencies that purchase advertising on its platform on behalf of the agencies' clients. These advertising arrangements are typically sold on a cost-per-thousand basis and are evidenced by an Insertion Order ("IO") that specifies the terms of the arrangement such as the type of ad product, pricing, insertion dates, and number of impressions in a stated period. Revenue is recognized over time based on the number of impressions delivered. IOs may include multiple performance obligations as they generally contain several different advertising products that each represent a separately identifiable promise within the contract. For such arrangements, the Group allocates revenue to each performance obligation on a relative stand-alone selling price basis. The Group determines stand-alone selling prices based on the prices charged to customers. The Group also may offer cash rebates to

advertising agencies based on the volume of advertising inventory purchased. These rebates are estimated based on expected performance and historical data and result in a reduction of revenue recognized.

Additionally, the Group generates revenue through arrangements with certain suppliers to distribute advertising inventory on their ad exchange platforms for purchase on a cost-per-thousand basis. Revenue is recognized over time when impressions are delivered on the platform.

(iii) Contract liabilities

The following table provides information about contract liabilities from contracts with customers.

	January 1, 2015	December 31, 2015	December 31, 2016	December 31, 2017
		(in € millions)		
Contract liabilities				
Deferred advertising revenue	1	2	1	1
Deferred subscription revenue	62	90	148	215
	63	**92**	**149**	**216**

Deferred revenue is mainly comprised of subscription fees collected for services not yet performed and therefore revenue has not been recognized. Revenue is recognized over time as the services are performed. The increase in deferred revenue in 2016 and 2017 is a result of an increase in the number of Premium Subscribers. This balance will be recognized as revenue as the services are performed, which is generally expected to occur over a period up to a year.

Revenue recognized that was included in the contract liability balance at the beginning of the years ended December 31, 2016 and 2017 is €92 million and €149 million, respectively.

As permitted under IFRS 15, the Group does not disclose unsatisfied (or partially unsatisfied) performance obligations when the related contract has a duration of one year or less. The Group also applies the practical expedient under the transitional provisions of IFRS 15 and does not disclose the amount of the transaction price allocated to the remaining performance obligations and an explanation of when the Group expects to recognize that amount as revenue for the year ended December 31, 2016.

5. Business combinations

Acquisition in 2015

During 2015, the Group acquired the operations of one business. The acquisition is accounted for under the acquisition method. The total purchase consideration is €7 million, all of which was recorded in goodwill. The acquisition did not have a material impact on the Group's total revenue or net loss for the year ended December 31, 2015.

Included in the arrangements are payments that are contingent on continued employment. The payments are remuneration for post-combination services and are automatically forfeited if employment terminates. A total of €2 million of post-combination cash pay-outs will be recorded as compensation expense over the service period of three years.

Acquisitions in 2016

During 2016, the Group acquired the operations of three separate businesses. The acquisitions were accounted for under the acquisition method. The total purchase consideration was €8 million, of which €7 million was recorded to goodwill, and €1 million to acquired intangibles assets.

Included in the arrangements are payments that are contingent on continued employment. The payments are recognized as remuneration for post-combination services and are automatically forfeited if employment terminates. A total of €3 million of post-combination cash pay-outs will be recorded as compensation expense over the service periods of up to three years.

The results of operations for each of the acquisitions have been included in the Group's consolidated statements of operations since the respective dates of acquisitions. Actual and pro forma revenue and results of operations for the acquisitions have not been presented because they do not have a material impact to the consolidated revenue and results of operations, either individually or in aggregate.

Acquisitions in 2017

During 2017, the Group acquired the operations of five separate businesses. The acquisitions were accounted for under the acquisition method. The total purchase consideration paid was €85 million, of which €52 million was in cash and €33 million in equity. Of the total purchase consideration, €71 million has been recorded to goodwill, €17 million to acquired intangible assets, €4 million to deferred tax liabilities, and €1 million to tangible assets.

The goodwill of €71 million represents the future economic benefits expected to arise from other intangible assets acquired that do not qualify for separate recognition, including an experienced workforce and expected future synergies.

Included in the arrangements are payments that are contingent on continued employment. The payments are recognized as remuneration for post-combination services and are automatically forfeited if employment terminates. A total of up to €22 million of post-combination cash pay-outs will be recorded as compensation expense over service periods of up to three years.

Included in one of the arrangements are 1,547 restricted stock awards that are contingent on continued employment and are accounted for as equity-settled share-based payment transactions. A total of €6 million of post-combination expense will be recorded over the service period of two and three-years from the acquisition date if not forfeited by the employees (see Note 17).

The results of operations for each of the acquisitions have been included in the consolidated statements of operations since the respective acquisition dates. Actual and pro forma revenue and results of operations for the acquisitions have not been presented because they do not have a material impact to the consolidated revenue and results of operations, either individually or in aggregate.

6. Segment information

The Group has two reportable segments: Premium and Ad-Supported. The Premium Service is a paid service in which customers can listen on-demand and offline. Revenue is generated through subscription fees. The Ad-Supported Service is free to the user. Revenue is generated through the sale of advertising. Royalty costs are primarily recorded in each segment based on specific rates for each segment agreed with rights holders. The remaining royalties which are not specifically associated to either of the segments are allocated based on user activity or the revenue recognized in each segment. No operating segments have been aggregated to form the reportable segments.

Key financial performance measures of the segments including revenue, cost of revenue, and gross profit are as follows:

	2015	2016	2017
		(in € millions)	
Premium			
Revenue	1,744	2,657	3,674
Cost of revenue	1,487	2,221	2,868
Gross profit	**257**	**436**	**806**
Ad-Supported			
Revenue	196	295	416
Cost of revenue	227	330	373
Gross (loss)/profit	**(31)**	**(35)**	**43**

	2015	2016	2017
		(in € millions)	
Consolidated			
Revenue	1,940	2,952	4,090
Cost of revenue	1,714	2,551	3,241
Gross profit	**226**	**401**	**849**

Reconciliation of gross profit

General expenditures, finance income, finance costs, taxes, and share in (losses)/earnings of associates and joint ventures are not allocated to individual segments as these are managed on an overall group basis. The reconciliation between reportable segment gross profit and loss to consolidated loss before tax is as follows:

	2015	2016	2017
		(in € millions)	
Segment gross profit	**226**	**401**	**849**
Research and development	(136)	(207)	(396)
Sales and marketing	(219)	(368)	(567)
General and administrative	(106)	(175)	(264)
Finance income	36	152	118
Finance costs	(26)	(336)	(974)
Share in (losses)/earnings of associates and joint ventures	—	(2)	1
Loss before tax	**(225)**	**(535)**	**(1,233)**

Revenue by country

	2015	2016	2017
		(in € millions)	
United States	741	1,173	1,577
United Kingdom	268	342	444
Luxembourg	1	1	3
Other countries	930	1,436	2,066
	1,940	2,952	4,090

Premium revenues are attributed to a country based on where the membership originates. Advertising revenues are attributed to a country based on where the campaign is viewed. There are no countries that make up greater than 10% of total revenue included in "Other countries".

Non-current assets by country

Non-current assets for this purpose consists of property and equipment.

	2016	2017
	(in € millions)	
Sweden	12	32
United States	50	28
United Kingdom	19	6
Other countries	4	7
	85	73

As of December 31, 2016 and 2017, the Group held no property and equipment in Luxembourg.

7. Personnel expenses

	2015	2016	2017
	(in € millions, except employee data)		
Wages and salaries	163	231	348
Social costs	45	38	136
Contributions to retirement plans	7	12	17
Share-based payments	28	53	65
Other employee benefits	16	39	48
	259	**373**	**614**
Average full-time employees	**1,534**	**2,084**	**2,960**

8. Auditor remuneration

	2015	2016	2017
	(in € millions)		
Audit and audit related fees	3	4	5

9. Finance income and costs

	2015	2016	2017
	(in € millions)		
Finance income			
Fair value movements on derivative liabilities (Note 22)	26	23	97
Interest income	2	5	19
Other financial income	—	—	2
Foreign exchange gains	8	124	—
	36	**152**	**118**
Finance costs			
Fair value movements on derivative liabilities (Note 22)	(14)	(48)	(303)
Fair value movements on Convertible Notes (Note 22)	—	(245)	(524)
Interest, bank fees and other costs	(1)	(5)	(4)
Foreign exchange losses	(11)	(38)	(143)
	(26)	**(336)**	**(974)**

10. Income tax

	2015	2016	2017
	(in € millions)		
Current tax expense/(benefit)			
Current year	5	5	6
Changes in estimates in respect to prior year	(1)	(1)	1
	4	4	7
Deferred tax expense/(benefit)			
Temporary differences	—	(1)	(5)
Change in recognition of deferred tax	1	—	—
Change in tax rates	—	1	—
	1	—	(5)
Income tax expense	5	4	2

There is no income tax related to components of other comprehensive loss for any of the periods presented.

The Group believes that its accruals for tax liabilities are adequate for all open tax years based on its assessment of many factors, including interpretations of tax law and prior experience.

In 2017, the Group had recognized no current income tax expense for provisions and have cumulatively recorded liabilities of €6 million for income tax provisions at December 31, 2017, of which €5 million is reasonably expected to be resolved within twelve months.

A reconciliation between the reported tax expense for the year, and the theoretical tax expense that would arise when applying the statutory tax rate in Luxembourg of 29.22%, 29.22%, and 27.08% on the consolidated loss before taxes for the years ended December 31, 2015, 2016, and 2017, respectively, is shown in the table below:

	2015	2016	2017
		(in € millions)	
Loss before tax	**(225)**	**(535)**	**(1,233)**
Tax using the Luxembourg tax rate	(66)	(156)	(334)
Effect of tax rates in foreign jurisdictions	10	15	(10)
Permanent differences	8	12	15
Change in unrecognized deferred taxes	52	132	329
Other	1	1	2
Income tax expense	**5**	**4**	**2**

The major components of deferred tax assets and liabilities are comprised of the following:

	2016	2017
	(in € millions)	
Intangible assets	—	(4)
Share-based compensation	1	4
Tax losses carried forward	—	3
Property and equipment	1	3
Other	1	—
Net Tax	**3**	**6**

A reconciliation of net deferred tax is shown in the table below:

	2016	2017
	(in € millions)	
At January 1	**4**	**3**
Movement recognized in consolidated statement of operations	1	5
Movement recognized in consolidated statement of changes in equity	(2)	2
Movement due to acquisition	—	(4)
At December 31	**3**	**6**

Deferred tax assets and deferred tax liabilities are offset if a legally enforceable right exists to set off current tax assets against current tax liabilities and the deferred taxes relate to the same taxable entity and the same taxation authority.

Reconciliation to balance sheet	2016	2017
	(in € millions)	
Deferred tax assets	3	9
Deferred tax liabilities	—	3

Deferred tax assets have not been recognized in respect of the following items, because it is not probable that future taxable profit will be available against which the Group can use the benefits.

	2016	2017
	(in € millions)	
Intangible assets	41	74
Share-based compensation	2	115
Tax losses carried forward	197	258
Unrealized losses	18	114
Property and equipment	6	4
Foreign tax credits	4	4
Other	4	12
	272	581

At December 31, 2017, no deferred tax liability has been recognized on investments in subsidiaries. The Company has concluded it has the ability and intention to control the timing of any distribution from its subsidiaries and will only do so in a tax advantageous manner. It is not practicable to calculate the unrecognized deferred tax liability on investments in subsidiaries.

Tax loss carry-forwards as at December 31, 2017, were expected to expire as follows:

Expected expiry	2018-2026	2027 and onwards	Unlimited	Total
		(in € millions)		
Tax loss carry-forwards	—	439	912	1,351
Foreign Tax Credits	4	—	—	4

The Group has significant net operating loss carry-forwards in the United States, Luxembourg, and Sweden. In certain jurisdictions, if the Group is unable to earn sufficient income or profits to utilize such carry-forwards before they expire, they will no longer be available to offset future income or profits.

In Sweden, utilization of these net operating loss carry-forwards may be subject to a substantial annual limitation if there is an ownership change within the meaning of Chapter 40, paragraphs 10-14, of the Swedish Income Tax Act (the "Swedish Income Tax Act"). In general, an ownership change, as defined by the Income Tax Act results from a transaction or series of transactions over a five-year period resulting in an ownership change of more than 50% of the outstanding stock of a company by certain categories or individuals, businesses or organizations.

In addition, in the United States, utilization of these net operating loss carry-forwards may be subject to a substantial annual limitation if there is an ownership change within the meaning of Section 382 of the Internal Revenue Code ("Section 382"). In general, an ownership change, as defined by Section 382, results from a transaction or series of transactions over a three-year period resulting in an ownership change of more than 50% of the outstanding stock of a company by certain stockholders or public groups. Since the Group formation, the Group has raised capital through the issuance of capital stock on several occasions, and the Group may continue to do so, which, combined with current or future shareholders' disposition of ordinary shares, may or may not have resulted in such an ownership change. Such an ownership change may limit the amount of net operating loss carry-forwards that can be utilized to offset future taxable income.

The Group's most significant tax jurisdictions are Sweden and the U.S. (both at the federal level and in various state jurisdictions). Because of its tax loss and tax credit carry-forwards, substantially all of the Group's tax years remain open to federal, state, and foreign tax examination. Certain of the Group's subsidiaries are currently under examination by the Swedish, U.S. and other foreign tax authorities for tax years from 2008-2016. These examinations may lead to adjustments to the Group's taxes.

11. Loss per share

Basic loss per share is computed using the weighted-average number of outstanding ordinary shares during the period. Diluted loss per share is computed using the weighted-average number of outstanding ordinary shares and excludes all potential ordinary shares outstanding during the period, as their inclusion would be anti-dilutive. The Group's potential ordinary shares consist of incremental shares issuable upon the assumed exercise of stock options and warrants, and the incremental shares issuable upon the assumed vesting of unvested restricted stock units and restricted stock awards. The computation of loss per share is as follows:

	2015	2016	2017
	(in € millions, except share and per share data)		
Basic and diluted			
Net loss attributable to owners of the parent	(230)	(539)	(1,235)
Shares used in computation:			
Weighted-average ordinary shares outstanding	3,548,665	3,709,218	3,791,719
Basic and diluted net loss per share attributable to owners of the parent	**(64.81)**	**(145.31)**	**(325.71)**

Potential dilutive securities that are not included in the diluted per share calculations because they would be anti-dilutive are as follows:

	2015	2016	2017
Employee options	229,803	274,412	366,168
Restricted stock units	15,687	12,537	4,898
Restricted stock awards	1,984	—	1,547
Warrants	—	128,000	168,000

The potential ordinary shares issuable relating to the contingent options and Convertible Notes are issuable only upon specified contingent events. As the specified contingent events have not occurred, these contingently dilutive shares are not considered in the calculation of dilutive EPS. For further details, see Notes 16 and 18.

12. Property and equipment

	Property and equipment	Leasehold improvements	Total
		(in € millions)	
Cost			
At January 1, 2016	**96**	**41**	**137**
Additions	28	10	38
Disposals	(10)	(1)	(11)
Exchange differences	(3)	1	(2)
At December 31, 2016	**111**	**51**	**162**
Additions	10	29	39
Disposals	(11)	(2)	(13)
Exchange differences	(5)	(5)	(10)
At December 31, 2017	**105**	**73**	**178**
Accumulated depreciation			
At January 1, 2016	**(47)**	**(9)**	**(56)**
Depreciation charge	(26)	(6)	(32)
Disposals	10	1	11
Exchange differences	1	(1)	—
At December 31, 2016	**(62)**	**(15)**	**(77)**
Depreciation charge	(37)	(9)	(46)
Disposals	11	2	13
Exchange differences	4	1	5
At December 31, 2017	**(84)**	**(21)**	**(105)**
Cost, net accumulated depreciation			
At December 31, 2016	**49**	**36**	**85**
At December 31, 2017	**21**	**52**	**73**

In 2017, the Group shortened the useful life of certain equipment due to a planned transition to the cloud and recorded accelerated depreciation of €11 million. The Group had no such charges in 2016 and 2015.

The Group leases various equipment under non-cancellable finance lease agreements over a lease term of 3 years. Property and equipment includes the following amounts where the Group is a lessee under a finance lease:

	2016	2017
	(in € millions)	
Finance leases	15	15
Accumulated depreciation	(10)	(14)
	5	1

13. Intangible assets including goodwill

	Internal development costs and patents	Acquired intangible assets	Total	Goodwill	Total
		(in € millions)			
Cost					
At January 1, 2016	**5**	**12**	**17**	**65**	**82**
Additions	3	—	3	—	3
Acquisitions, business combination (Note 5)	—	1	1	7	8
Write off of fully amortized intangibles	—	(1)	(1)	—	(1)
Exchange differences	—	—	—	1	1
At December 31, 2016	**8**	**12**	**20**	**73**	**93**
Additions	12	—	12	—	12
Acquisition, business combination (Note 5)	—	17	17	71	88
Write off of fully amortized intangibles	(2)	(11)	(13)	—	(13)
Exchange differences	—	(1)	(1)	(9)	(10)
At December 31, 2017	**18**	**17**	**35**	**135**	**170**
Accumulated amortization					
At January 1, 2016	**(1)**	**(8)**	**(9)**	**—**	**(9)**
Amortization charge	(2)	(4)	(6)	—	(6)
Write off of fully amortized intangibles	—	1	1	—	1
Exchange differences	—	1	1	—	1
At December 31, 2016	**(3)**	**(10)**	**(13)**	**—**	**(13)**
Amortization charge	(5)	(3)	(8)	—	(8)
Write off of fully amortized intangibles	2	11	13	—	13
Exchange differences	—	—	—	—	—
At December 31, 2017	**(6)**	**(2)**	**(8)**	**—**	**(8)**
Cost, net accumulated amortization					
At December 31, 2016	**5**	**2**	**7**	**73**	**80**
At December 31, 2017	**12**	**15**	**27**	**135**	**162**

Amortization of €4 million, €5 million and €8 million in 2015, 2016, and 2017, respectively, is included in research and development in the consolidated statement of operations. Research and development costs that are not eligible for capitalization have been expensed in the period incurred.

Goodwill is tested for impairment on an annual basis or when there are indications the carrying amount may be impaired. In 2015, the Group had only one operating segment. In 2016, given the Group's focus on the differentiation between Premium and Ad-Supported as distinct businesses, as well as the evolution of these services as distinct products and experiences that appeal to different customers, the combined revenue organization was separated into two businesses. For the purpose of 2016 and 2017 impairment testing, goodwill is allocated to the Group's two operating segments, Premium and Ad-Supported, based on the units that are expected to benefit from the business combination. The Group monitors goodwill at the operating segment level for internal purposes, consistent with the way it assesses performance and allocates resources. The carrying amount of goodwill allocated to each of the operating segments is as follows:

	Premium	Ad-Supported	Premium	Ad-Supported
	2016	2016	2017	2017
		(in € millions)		
Goodwill	64	9	119	16

Valuation methodology

The Group performed its annual impairment test in the fourth quarter of 2016. The recoverable amount of the Premium and Ad-Supported operating segments is determined by the Probability Weighted Expected Return Method ("PWERM"). The PWERM represents fair value less costs of disposal ("FVLCD"), which is classified as Level 3 under the fair value hierarchy. FVLCD is calculated using the projected revenue of the business and applying a multiple based on historical revenue multiples of comparable publicly traded companies. The PWERM method quantifies the underlying enterprise value by probability weighting the indicated equity values of potential discrete future outcomes (or "scenarios"). The weighting and key assumptions used to estimate the fair value using the PWERM were the same for both operating segments. As a result of the analysis, the FVLCD for the Premium and Ad-Supported operating segments was determined to be in excess of their carrying amounts. No impairment was recorded in 2015 and 2016.

Key assumptions used in the FVLCD calculations at the impairment testing date

The valuation models weighted the different scenarios as follows:

	2016
Market Approach – High Case Public Company	20%
Market Approach – Low Case Public Company	40%
Market Approach – High Case Transaction	4%
Market Approach – Low Case Transaction	6%
Private Case – Income and Market Approaches	3%

The key assumptions used to estimate the fair value of the operating segments using the PWERM are as follows:

	2016
Revenue multiple used to estimate enterprise value	2.0 – 3.5
Discount rate (%)	19.0

The calculation of the FVLCD is most sensitive to the revenue multiple and discount rate assumptions. Revenue multiples were selected based on the relative growth prospects, margin, and risks of comparable companies, versus the Group, as well as an assumption of market conditions at exit. The indicated value in the public company and transaction cases were discounted back to the valuation date using a rate consistent with the Group's weighted-average cost of capital ("WACC"). There are no reasonably possible changes in the key assumptions that would result in the operating segments' carrying amounts exceeding their recoverable amounts.

The Group performed its annual impairment test in the fourth quarter of 2017, and concluded that goodwill was not impaired as the fair value of the operating segments significantly exceeded their carrying amounts.

14. Restricted cash and other non-current assets

	2016	2017
	(in € millions)	
Restricted cash		
Lease deposits	20	41
Other	1	1
Other non-current assets	2	12
	23	54

15. Trade and other receivables

	2016	2017
	(in € millions)	
Trade receivables	249	295
Less: provision for impairment of trade receivables	(26)	(23)
Trade receivables – net	223	272
Other	77	88
	300	**360**

Trade receivables are non-interest bearing and generally have 30-day payment terms. Due to their comparatively short maturities, the carrying value of trade and other receivables approximate their fair value. The Group establishes an accrual against advances made to rights holders not expected to be recovered.

The aging of the Group's trade receivables that are not impaired is as follows:

	2016	2017
	(in € millions)	
Current	127	153
Overdue 1 – 30 days	45	69
Overdue 31 – 60 days	21	13
Overdue 60 – 90 days	13	11
Overdue more than 90 days	17	26
	223	**272**

With respect to trade receivables that are neither impaired nor past due, there are no indications at the reporting date that the debtors will not meet their payment obligations. The trade receivables past due relate to a number of customers for whom there is no recent history of default or other indicators of impairment.

The movements in the Group's provision for bad debts are as follows:

	2016	2017
	(in € millions)	
At January 1	**6**	**18**
Provision for receivables impairment	19	12
Receivables written off	(3)	(3)
Reversal of unutilized provisions	(4)	(12)
At December 31	**18**	**15**

The Group maintains a provision for impairment of a portion of trade receivables when collection becomes doubtful. The Group estimates anticipated losses from doubtful accounts based upon the expected collectability of all accounts receivables, which takes into account the number of days past due, collection history, identification of specific customer exposure, and current economic trends. An impairment loss on trade receivables is calculated as the difference between the carrying amount and the present value of the estimated future cash flow. Impairment losses are charged to general and administrative expense in the consolidated statement of operations. Receivables for which an impairment provision was recognized are written off against the provision when it is deemed uncollectible.

The maximum exposure to credit risk at the reporting date is the carrying value of each class of receivables mentioned above. The Group does not hold any collateral as security.

16. Issued share capital and other reserves

As at December 31, 2016 and 2017, the authorized and subscribed share capital was comprised of 10,075,044 shares at a par value €0.025 each.

The Group has incentive stock option plans under which options to subscribe to the Company's share capital have been granted to executives and certain employees. Options exercised under these plans have been settled via the issuance of new shares.

On November 13, 2012, the Group entered into an equity financing agreement with new and existing shareholders for the issuance of 105,103 ordinary shares for total gross proceeds of €79 million and incurred transaction costs of €3 million in addition to the shares received, the new investors also received contingent options that provided downside protection (meaning that the new investors are eligible to receive additional shares at certain valuations in the event of certain triggering events such as a trade sale, public listing, or liquidation). The contingent options were determined to be embedded derivatives which required separation from the equity issuance. The contingent options recognized as a derivative liability upon issuance were valued at €39 million at December 31, 2012. Refer to Note 22.

On November 20, 2013, the Group entered into an equity financing agreement with new investors for the issuance of 205,829 shares. On December 19, 2013, the first closing occurred and the Group issued 139,604 shares for total gross proceeds of €123 million and incurred transaction costs of €2 million. The second closing occurred on January 17, 2014, whereby 66,225 ordinary shares were issued for total gross proceeds of €58 million. In addition to the shares received in December 2013, the new investors also received contingent options that provided downside protection (meaning that the new investors are eligible to receive additional shares at certain valuations in the event of certain triggering events such as a trade sale, public listing, or liquidation). The contingent options were determined to be embedded derivatives, which required separation from the equity issuance. The contingent options recognized as a derivative liability upon issuance were valued at €31 million at December 31, 2013. Refer to Note 22.

On April 17, June 9, and July 15, 2015, the Group entered into an equity financing agreement with new and existing shareholders for the issuance of 237,122 ordinary shares for total gross proceeds of €479 million and incurred transaction costs of €5 million. In addition to the shares received, the new investors also received contingent options that provided downside protection (meaning that the new investors are eligible to receive additional shares at certain valuations in the event of certain triggering events such as a trade sale, public listing, or liquidation). The contingent options were determined to be embedded derivatives, which required separation from the equity issuance. The contingent options are recognized as a derivative liability and were valued at €87 million upon issuance. For further details, please see Note 22.

On October 17, 2016, the Group issued, for €27 million in cash, warrants to acquire 128,000 ordinary shares to certain members of key management. The exercise price of each warrant is US$2,024.40, which was equal to 1.2 times the fair market value of ordinary shares on the date of issuance. The warrants are exercisable at any time through October 17, 2019. For further details, please see Note 22.

On July 13, 2017, the Group issued, for €9 million in cash, a warrant to acquire 40,000 ordinary shares to a holder that is an employee and a member of management of the Group. The exercise price of each warrant is US$3,589, which was equal to 1.3 times the fair market value of ordinary shares on the date of issuance. The warrants are exercisable at any time through July 2020. For further details, please see Note 22.

On December 15, 2017, the Group issued 213,811 ordinary shares in exchange for a non-controlling equity interest in Tencent Music Entertainment Group ("TME") valued at €910 million. For further details, please see Note 22. The ordinary shares issued are subject to certain transfer restrictions for a period of up to three years from December 15, 2017, subject to limited exceptions, including transfers with the Group's prior consent; transfers to certain permitted transferees; transfers pursuant to a tender offer or exchange offer recommended by the Group's board of directors for a majority of the Group's issued and outstanding securities; transfers pursuant to mergers, consolidations, or other business combination transactions approved by the Group's board of directors; transfers to the Group or any of its subsidiaries; or transfers that are necessary to avoid regulation as an "investment company" under the U.S. Investment Company Act of 1940, as amended.

On December 15 and 29, 2017, the Group entered into exchange agreements with holders of a portion of its Convertible Notes, pursuant to which the Group exchanged an aggregate of US$411 million in principal of Convertible Notes, plus accrued interest of US$37 million, for an aggregate of 163,874 ordinary shares. For further details, please see Note 22.

No dividends were paid during the year or are proposed. All shares have equal rights to vote at general meetings.

Other reserves

	2015	2016	2017
		(in € millions)	
Currency translation			
At January 1	8	8	(4)
Currency translation	—	(12)	(3)
At December 31	8	(4)	(7)
Available for sale financial assets			
At January 1	—	—	(4)
Losses on fair value	—	(4)	(13)
Losses reclassified to consolidated statement of operations	—	—	1
At December 31	—	(4)	(16)
Share-based payments			
At January 1	47	77	130
Share-based payments (Note 17)	29	53	67
Income tax impact associated with share-based payments (Note 10)	1	—	3
At December 31	77	130	200
At December 31	85	122	177

Currency translation reserve comprises foreign exchange differences arising from the translation of the financial statements of foreign operations into the reporting currency.

Available for sale financial assets reserve recognizes the unrealized fair value gains and losses on current asset investments held as available for sale.

Share-based payments reserve recognizes the grant date fair value of equity-settled awards provided to employees as part of their remuneration. For further details, please see Note 17.

17. Share-based payments

Employee Share Option Plans

Under the Employee Share Option Plans ("ESOP"), share options of the Company are granted to executives and certain employees of the Group. For options granted prior to January 1, 2016, the exercise price is equal to the fair value of the shares on grant date for employees in the United States and for U.S. citizens and fair value less 30% for the rest of the world. The value of the discount is included in the grant date fair value of the award. For options granted thereafter, the exercise price of the options is equal to the fair value of the shares on grant date for all employees. Generally, the first vesting period (13.5% – 25% of the initial grant) is up to one year from the grant date and subsequently vests at a rate of 6.25% each quarter until fully vested. The exercise price for options is payable in the EUR value of a fixed USD amount; therefore, the Group considers these awards to be USD-denominated. The options are generally granted with a term of 5 years.

In connection with the Group's acquisition of Echo Nest in March of 2014, the Group assumed Echo Nest's equity incentive plan and issued replacement awards, the Group issued 11,454 stock options at a weighted-average exercise price of US$282 to replace previously held Echo Nest equity awards.

Restricted Stock Awards

In connection with the Group's acquisition of Echo Nest in March of 2014, the Group issued 3,968 restricted stock awards (RSAs) to certain Echo Nest employees. Vesting of the RSAs is contingent on continued

employment of these employees. The awards are accounted for as equity-settled share-based payment transactions. The RSAs vested annually over a two-year period from the acquisition date.

In connection with an acquisition during 2017, the Group issued 1,547 RSAs to certain employees of the aquiree. Vesting of the RSAs is contingent on continued employment of these employees. The awards are accounted for as equity-settled share-based payment transactions. The RSAs vest over a two- and three-year period from the acquisition date.

During 2015, 2016, and 2017, the Group recorded share-based compensation expense related to RSAs of €1 million, €0 million, and €0 million, respectively. The valuation of the RSAs was consistent with the fair value of the ordinary shares further described in Note 22.

Restricted Stock Unit Program

During 2014, the Company implemented Restricted Stock Unit (RSUs) program accounted for as equity-settled share-based payment transaction. RSUs are measured based on the fair market value of the underlying stock on the date of grant. The RSUs granted to participants under the Program generally vest over three to five years. The vesting of certain RSUs could accelerate in the event of an IPO or other change in control event.

In June 2017, the shareholders approved the Director Restricted Stock Unit plan for the Company to issue awards specifically to members of its Board of Directors. During 2017, a total of 888 RSUs have been awarded under this plan.

During 2015, 2016 and 2017, the Group recorded share-based compensation expense related to restricted stock units of €8 million, €5 million, and €6 million, respectively. The valuation of the RSUs was consistent with the fair value of the ordinary shares further described in Note 22.

Activity in the RSUs and RSAs outstanding and related information is as follows:

	RSU		RSA	
	Number of RSUs	**Weighted average grant date fair value**	**Number of RSAs**	**Weighted average grant date fair value**
		US$		**US$**
Outstanding at January 1, 2015	**21,238**	**1,215**	**3,968**	**956**
Granted	2,961	1,726	—	—
Forfeited	(5,723)	1,215	—	—
Vested	(2,789)	1,215	(1,984)	956
Outstanding at December 31, 2015	**15,687**	**1,311**	**1,984**	**956**
Granted	4,402	1,674	—	—
Forfeited	(3,500)	1,215	—	—
Released	(4,052)	1,301	(1,984)	956
Outstanding at December 31, 2016	**12,537**	**1,469**	—	—
Granted	2,023	2,385	1,547	3,626
Forfeited	(2,148)	1,497	—	—
Released	(7,514)	1,558	—	—
Outstanding at December 31, 2017	**4,898**	**1,698**	**1,547**	**3,626**

Activity in the share options outstanding and related information is as follows:

	ESOP		Non-employee options	
	Number of options	Weighted average exercise price	Number of options	Weighted average exercise price
		US$		€
Outstanding at January 1, 2015	**174,319**	**510**	**101,740**	**97**
Granted	83,691	1,615	—	—
Forfeited	(7,922)	801	(101,740)	(97)
Exercised	(17,785)	377	—	—
Expired	(2,500)	609	—	—
Outstanding at December 31, 2015	**229,803**	**912**	—	—
Granted	150,509	1,676	—	—
Forfeited	(12,814)	1,441	—	—
Exercised	(91,537)	406	—	—
Expired	(1,549)	837	—	—
Outstanding at December 31, 2016	**274,412**	**1,475**	—	—
Granted	145,488	2,564	—	—
Forfeited	(16,475)	1,854	—	—
Exercised	(35,563)	889	—	—
Expired	(1,694)	1,140	—	—
Outstanding at December 31, 2017	**366,168**	**1,949**	—	—
Exercisable at December 31, 2015	**123,180**	**527**	—	—
Exercisable at December 31, 2016	**94,125**	**1,199**	—	—
Exercisable at December 31, 2017	**145,560**	**1,585**	—	—

The weighted-average contractual life for the share options outstanding at December 31, 2015, 2016, and 2017 is 2.5 years, 3.4 years, and 3.3 years, respectively. The weighted-average share price at exercise for options exercised during 2015, 2016, and 2017 was US$1,744, US$1,682, and US$2,301, respectively. The weighted-average fair value of options granted during the year ended December 31, 2015, 2016, and 2017 was US$623 per option, US$524 per option, and US$722 per option, respectively.

The share options outstanding are comprised of the following:

	2015		2016		2017	
	Number of options	Weighted average remaining contractual life (years)	Number of options	Weighted average remaining contractual life (years)	Number of options	Weighted average remaining contractual life (years)
Range of exercise prices (US$)						
Below 1,600	165,260	1.9	68,277	2.0	38,636	1.4
1,600 – 1,700	31,704	4.3	158,003	4.0	143,373	2.7
Above 1,700	32,839	4.3	48,132	3.6	184,159	3.8
	229,803	**2.5**	**274,412**	**3.4**	**366,168**	**3.3**

In determining the fair value of the employee share-based awards, the Group uses the Black-Scholes option-pricing model. The Company does not anticipate paying any cash dividends in the near future and therefore uses an expected dividend yield of zero in the option valuation model. The expected volatility is based on the historical volatility of public companies that are comparable to the Group over the expected term of the award. The risk-free rate is based on U.S. Treasury zero-coupon rates as the exercise price is based on a fixed USD amount. The expected life of the share options is based on historical data and current expectations.

The following table lists the inputs to the Black-Scholes option-pricing models used for employee share-based payments for the years ended December 31, 2015, 2016, and 2017:

	2015	2016	2017
Expected volatility (%)	39.4 – 55.9	37.9 – 45.8	32.0 – 43.5
Risk-free interest rate (%)	0.9 – 1.6	0.8 – 1.8	1.4 – 2.0
Expected life of share options (years)	2.8 – 5.2	2.5 – 5.0	2.4 – 4.4
Weighted-average share price (US$)	1,448 – 1,860	1,648 – 1,776	2,028 – 3,626

Valuation assumptions are determined at each grant date and, as a result, are likely to change for share-based awards granted in future periods. Changes to the input assumptions could materially affect the estimated fair value of share-based payment awards.

The sensitivity analysis below shows the impact of increasing and decreasing expected volatility by 10% as well as the impact of increasing and decreasing the expected life by one year. This analysis was performed on stock options granted in 2017. The following table shows the impact of these changes on stock option expense for the options granted in 2017:

	2017
	(in € millions)
Actual stock option expense	31
Stock option expense increase (decrease) under the following assumption changes	
Volatility decreased by 10%	(8)
Volatility increase by 10%	7
Expected life decrease by 1 year	(5)
Expected life increase by 1 year	4

The expense recognized in the consolidated statement of operations for employee share-based payments is as follows:

	2015	2016	2017
		(in € millions)	
Cost of revenue	1	1	2
Research and development	11	16	21
Sales and marketing	6	10	15
General and administrative	10	26	27
	28	53	65

18. Convertible notes and borrowings

Convertible Notes

On April 1, 2016, the Group issued US$1,000 million principal amount of Convertible Notes due in 2021. The notes were issued at par and bear interest of 5.0% payment-in-kind interest increasing by 100 basis points every six months after two years. Upon a specified conversion event occurring, the Convertible Notes will convert into ordinary shares at a conversion rate reflecting a conversion price equal to the lesser of a price cap per share or a discount of 20.0% to the per share price of the Company's ordinary shares. If a specified conversion event has not occurred within twelve months, the discount will increase by 250 basis points and then again, every six months thereafter until a specified conversion event has occurred. A direct listing is not considered a specified conversion event. The terms also include change of control clauses where the notes holders have the option to convert into ordinary shares. At maturity, if the notes have not yet been converted or repaid, note holders will receive cash in an amount equal to the original principal amount plus 10% annualized return.

The Group accounts for the Convertible Notes in accordance with IAS 39, *Financial Instruments: Recognition and Measurement*, 'fair value option'. Under this approach, the Convertible Notes are accounted for in its entirety at fair value through profit or loss (initial recognition). The transaction costs of approximately US$20 million were effectively immediately expensed in finance costs.

The Convertible Note agreements include certain affirmative covenants, including the delivery of audited consolidated financial statements to the holders.

On December 15, 2017, holders of a portion of the Group's Convertible Notes exchanged US$301 million in principal of Convertible Notes, plus accrued interest of US$27 million, for 120,000 ordinary shares. The Convertible Notes were recorded at fair value on the date of exchange, which was reclassified to equity upon issuance of the ordinary shares. The fair value at exchange was based on secondary market transactions of US$600 million between note holders and a third party.

On December 27, 2017, the Group entered into an exchange agreement with holders of a portion of its Convertible Notes, pursuant to which the Group exchanged an aggregate of US$110 million in principal of Convertible Notes, plus accrued interest of US$10 million, for an aggregate of 43,874 ordinary shares as of December 29, 2017. The Convertible Notes were recorded at fair value on the date of exchange, which was reclassified to equity upon issuance of the ordinary shares. The fair value at exchange of US$211 million was based on the ordinary share fair value as at December 31, 2017. See Note 22.

In January 2018, the Group entered into an exchange agreement with holders of the remaining balance of its Convertible Notes, pursuant to which the Group exchanged the remaining of $628 million of Convertible Notes, plus accrued interest, for 235,799 ordinary shares. Pursuant to this exchange agreement, subject to certain conditions, if the Company fails to list its ordinary shares on or prior to July 2, 2018, the Group has agreed to offer to each noteholder the option to unwind the transaction such that the Group purchases back the shares that were issued to such noteholder pursuant to the exchange and will issue such noteholder a new note that is materially identical to its note prior to the exchange. The option to unwind the exchange if a listing does not occur by July 2, 2018 meets the definition of a contingent settlement event, and results in the issued equity shares ("Converted Notes") being classified as a financial liability in the statement of financial position until the option to unwind expires due to a direct listing or the passage of time. The Group accounts for the Converted Notes in accordance with IAS 39, Financial Instruments: Recognition and Measurement, 'fair value option'. Under this approach, the Converted Notes are accounted for in its entirety at fair value through profit or loss. We will continue to fair value the issued shares and recognize changes in fair value within finance costs in the consolidated statement of operations until the option to unwind expires due to a direct listing or the passage of time.

Finance lease liabilities

Total borrowings include finance lease liabilities. Lease liabilities are effectively secured as the rights to the leased asset revert to the lessor in the event of default.

	2016	2017
	(in € millions)	
Gross finance lease liabilities – minimum lease payments:		
Not later than one year	5	1
Later than one year but not more than 5 years	1	—
	6	1
Future finance charges on finance lease liabilities	—	—
Present value of finance lease liabilities	6	1

The present value of finance lease liabilities is as follows:

	2016	2017
	(in € millions)	
No later than 1 year	5	1
Later than 1 year and no later than 5 years	1	—
	6	1

Undrawn borrowing facilities

On December 23, 2013, the Group signed a Revolving Credit Facility with a group of lenders. The facility provided for maximum borrowings, of US$200 million. The total facility was available for issuance under a revolving loan and US$20 million was available for a swingline loan. The interest rates per annum under the facility were based on floating rates of interest measured by reference to an adjusted Prime rate, Federal Funds rate, London inter-bank offered rate (LIBOR), or Euro inter-bank offered rate (EURIBOR). The Group incurred loan origination fees of approximately US$2 million, which were deferred and amortized to finance costs over the term of the facility.

The Revolving Credit Facility was terminated on April 7, 2016. The Group had no borrowings under the senior revolving credit facility at the time of its termination. No early termination penalties were incurred by the Group as a result of the termination.

The Group incurred financing costs and commitment fees, of €1 million in 2016, inclusive of loan origination amortization and unused commitment fees. Upon termination of the facility, the Group wrote off the remaining unamortized loan origination costs.

19. Trade and other payables

	2016	2017
	(in € millions)	
Trade payables	139	242
Value added tax and sales taxes payable	50	91
Other current liabilities	12	8
	201	**341**

Trade payables generally have a 30-day term and are recognized and carried at their invoiced value, inclusive of any value added tax that may be applicable.

20. Accrued expenses and other liabilities

	2016	2017
	(in € millions)	
Non-current		
Deferred rent	9	55
Borrowings (Note 18)	1	—
Other accrued liabilities	—	1
	10	**56**
Current		
Accrued fees to rights holders	562	639
Accrued salaries, vacation, and related taxes	20	34
Accrued social costs for options and RSUs	11	87
Borrowings (Note 18)	5	1
Other accrued expenses	75	120
	673	**881**
	683	**937**

21. Provisions

The changes in the Group's provisions were as follows:

	Legal contingencies	Onerous contracts	Other	Total
		(in € millions)		
Carrying amount at January 1, 2016	8	6	9	23
Charged/(credited) to the consolidated statement of operations:				
Additional provisions	46	5	2	53
Reversal of unutilized amounts	—	—	—	—
Utilized	(5)	(6)	(4)	(15)
Carrying amount at December 31, 2016	49	5	7	61
Charged/(credited) to the consolidated statement of operations:				
Additional provisions	60	5	2	67
Reversal of unutilized amounts	—	—	(1)	(1)
Exchange differences	(11)	—	—	(11)
Utilized	(45)	(4)	(2)	(51)
Carrying amount at December 31, 2017	53	6	6	65
As at December 31, 2016:				
Current portion	49	4	4	57
Non-current portion	—	1	3	4
As at December 31, 2017:				
Current portion	53	4	2	59
Non-current portion	—	2	4	6

Provision for legal contingencies

Various legal actions, proceedings, and claims are pending or may be instituted or asserted against the Group. The results of such legal proceedings are difficult to predict and the extent of the Group's financial exposure is difficult to estimate. The Group records a provision for contingent losses when it is both probable that a liability has been incurred and the amount of the loss can be reasonably estimated.

Between December 2015 and January 2016, two putative class action lawsuits were filed against Spotify USA Inc. in the U.S. District Court for the Central District of California, alleging that the Group unlawfully reproduced and distributed musical compositions without obtaining licenses. These cases were subsequently consolidated in May 2016 and transferred to the U.S. District Court for the Southern District of New York in October 2016, as *Ferrick et al. v. Spotify USA Inc.*, No. 1:16-cv-8412-AJN (S.D.N.Y). In May 2017, the parties reached a signed class action settlement agreement which the court has preliminarily approved, pursuant to which the Group will be responsible for (i) a $43 million cash payment to a fund for the class, (ii) all settlement administration and notice costs, expected to be between $1 million to $2 million, (iii) a direct payment of class counsel's attorneys' fees of up to $5 million dollars, (iv) future royalties for any tracks identified by claimants, as well as other class members who provide proof of ownership following the settlement, and (v) reserving future royalties for unmatched tracks. The final approval hearing was held on December 1, 2017 and the court has not yet issued a ruling.

Even if the settlement is finally approved, the Group may still be subject to claims of copyright infringement by rights holders who have purported to opt out of the settlement or who may not otherwise be covered by its terms.

Provision for onerous contracts

At December 31, 2016, onerous contracts principally represent a specific partner contract where the unavoidable cost of meeting the obligations exceeds the expected revenue. The costs associated with the provisions are recognized as cost of revenue.

At December 31, 2017, onerous contracts principally represent vacant leasehold property for which the Group has substantially ceased to use and the Group estimates a sub-tenant would be at a significantly reduced rental. In this case, the unavoidable costs of meeting the obligations under the lease exceed the economic benefits expected to be received. As such, the Group has recorded a provision for the estimated cash flows related to the property within operating expenses. The Group expects the provision to be consumed over the remaining lease term, being nine years.

Other

The Group has obligations under lease agreements to return the leased assets to their original condition. An obligation to return the leased asset to their original condition upon expiration of the lease is accounted for as asset retirement obligations. The obligations are expected to be settled at the end of the lease terms.

Indirect tax provisions relate primarily to potential non-income tax obligations in various jurisdictions. The Group recognizes provisions for claims or indirect taxes when it determines that an unfavorable outcome is probable and the amount of loss can be reasonably estimated. These provisions are recognized as general and administrative expenses.

22. Financial risk management and financial instruments

Financial risk management

The Group's operations are exposed to financing and financial risks, which are managed under the control and supervision of the Board of Directors of the Company. To manage these risks efficiently, the Group has established guidelines in the form of a treasury policy that serves as a framework for the daily financial operations. The treasury policy stipulates the rules and limitations for the management of financial risks.

Financial risk management is centralized within Treasury who are responsible for the management of financing and financial risks. Treasury manages and executes the financial management activities, including monitoring the exposure of financial risks, cash management, and maintaining a liquidity reserve, and it provides certain financial services to the Group's entities. Treasury operates within the limits and policies authorized by the Board of Directors.

Capital management

The Group's objectives when managing capital (cash and cash equivalents, short term investments, equity, and Convertible Notes) is to safeguard the Group's ability to continue as a going concern in order to provide returns for shareholders and to maintain an optimal capital structure to reduce the cost of capital. The Group's capital structure and dividend policy is decided by the Board of Directors. Treasury continuously reviews the Group's capital structure considering, amongst other things, market conditions, financial flexibility, business risk, and growth rate.

The Group is not subject to any externally imposed capital requirements.

Credit risk management

Financial assets carry an element of risk that counterparties may be unable to fulfill their obligations. This exposure arises from the investments in liquid funds of banks and other counterparties. The Group mitigates this risk by adopting a risk adverse approach in relation to the investment of surplus cash. The main objectives for investments are first, to preserve principal and secondarily, to maximize return given the rules and limitations of the treasury policy. Surplus cash is invested in counterparties and instruments considered to carry low credit risk. Investments are subject to credit rating thresholds and at the time of investment, no more than 10% of surplus cash can be invested in any one issuer (excluding certain government bonds and investments in cash

management banks). The weighted-average maturity of the portfolio shall not be greater than 2 years, and the final maturity of any investment is not to exceed 5 years. The Group shall maintain the ability to liquidate the majority of all short term investments within 90 days. At December 31, 2016 and 2017, the financial credit risk was equal to the consolidated statement of financial position value of cash and cash equivalents and short term investments of €1,585 million and €1,509 million, respectively. No credit losses were incurred during 2016 or 2017 on investments.

The credit risk with respect to the Group's trade receivables is diversified geographically and among a large number of customers, private individuals as well as companies in various industries, both public and private. The majority of the Group's revenue is paid in advance significantly lowering the credit risk incurred for these specific counterparties. Solvency information is generally required for credit sales within the Ad sales and Partner subscription business to minimize the risk of bad debt losses and is based on information provided by credit and business information from external sources.

Liquidity risk management

Liquidity risk is the Group's risk of not being able to meet the short term payment obligations due to insufficient funds. The Group has internal control processes and contingency plans for managing liquidity risk. A centralized cash pooling process enables the Group to manage liquidity surpluses and deficits according to the actual needs at the group and subsidiary level. The liquidity management takes into account the maturities of financial assets and financial liabilities and estimates of cash flows from operations.

The Group's policy is to have a strong liquidity position in terms of available cash and cash equivalents, and short term investments.

	2016	2017
	(in € millions)	
Liquidity		
Short term investments	830	1,032
Short term deposits	373	122
Cash at bank and on hand	382	355
Total surplus liquidity	**1,585**	**1,509**
Liquidity position	**1,585**	**1,509**

Currency risk management

Transaction exposure relates to business transactions denominated in foreign currency required by operations (purchasing and selling) and/or financing (interest and amortization). The Group's general policy is to hedge transaction exposure on a case-by-case basis. During 2016, the Group had not entered into any hedging transactions. In 2017, the Group began entering into multiple foreign exchange forward contracts. The Group strives, as far as possible, to mitigate its currency exposure in the USD denominated Convertible Notes by matching the balance with USD denominated cash and cash equivalents and short term investments creating a natural hedge. Translation exposure relates to net investments in foreign operations. The Group does not conduct translation risk hedging.

(i) Transaction exposure sensitivity

In most cases, the Group's customers are billed in their respective local currency. Major payments, such as salaries, consultancy fees, and rental fees are settled in local currencies. Royalty payments are primarily in EUR and USD. Hence, the operational need to net purchase foreign currency is primarily due to a deficit from such settlements.

The table below shows the immediate impact on net loss before tax of a 10% strengthening in the closing exchange rate of significant currencies to which the Group had exposure, at December 31, 2016 and 2017. The sensitivity associated with a 10% weakening of a particular currency would be equal and opposite. This assumes that each currency moves in isolation.

2016	SEK	AUD	EUR	GBP	USD
			(in € millions)		
(Increase)/decrease in loss before tax.................	(20)	6	(36)	(22)	(31)

2017	SEK	AUD	EUR	GBP	USD
			(in € millions)		
(Increase)/decrease in loss before tax...................	1	5	2	(2)	9

For the notional amount of the Group's foreign exchange forward contracts not designated for hedging, the immediate impact on net loss before tax of a 10% strengthening in the closing exchange rate of the USD would be a negative impact of €26 million as of December 31, 2017.

(ii) Translation exposure sensitivity

The positive impact on the Group's equity would be approximately €40 million and €27 million if the EUR weakened by 10% against all translation exposure currencies, based on the exposure at December 31, 2016 and 2017, respectively.

Interest rate risk management

Interest rate risk is the risk that changes in interest rates will have a negative impact on the Group's earnings and cash flow. The fair value of the Group's Convertible Notes is dependent on market interest rates, which may negatively impact earnings. The Convertible Notes are remeasured at each reporting date using valuation models using input data, which includes market interest rates. Changes in the fair value of the Convertible Notes are recognized in finance income or cost in the consolidated statement of operations. An increase in market interest rates will decrease the value of the Convertible Notes. The Group has not entered into any hedging arrangement to mitigate these fluctuations.

The Group's exposure to interest rate risk also is related to its interest-bearing assets, primarily its available for sale debt securities. Fluctuations in interest rates impact the yield of the investment. The sensitivity analysis considered the historical volatility of short term interest rates and determined that it was reasonably possible that a change of 100 basis points could be experienced in the near term. A hypothetical 100 basis points increase in interest rates would have impacted interest income by €6 million and €8 million for the years ended December 31, 2016 and 2017, respectively.

Financing risk management

The Group finances its operations through external borrowings, equity, and cash flow from operations. The funding strategy has been to diversify funding sources. Currently the external debt consists of the Convertible Notes and finance leases.

Share price risk management

Share price risk is the risk that the fair value or future cash flows of a financial instrument will fluctuate due to changes in the fair value of the Company's ordinary share price. The Group's exposure to this risk relates primarily to the Convertible Notes and contingent options arising from financing activities and the outstanding warrants. At December 31, 2017, the Convertible Notes are valued at the assumed exchange to ordinary shares based on the fair value of the Company's ordinary share price. An increase of share price will increase the value of the Convertible Notes.

The contingent options and warrants are remeasured at each reporting date using valuation models using input data based on the Company's share price. Changes in the fair value of these instruments are recognized in finance income or cost. An increase of share price will decrease the value of the contingent options and an increase in the value of the warrants. The Group has not entered into any hedging arrangement to mitigate these fluctuations.

Management of insurable risks

Insurance coverage is governed by corporate guidelines and includes a common package of different property and liability insurance programs. The business is responsible for assessing the risks to decide the extent of actual coverage. Treasury manages the common Group insurance programs.

Financial instruments

Foreign exchange forward contracts

Beginning in 2017, the Group began entering into multiple foreign exchange forward contracts with financial institutions to reduce the risk that cash flows and earnings will be adversely affected by foreign currency exchange rate fluctuations. The Group does not enter into foreign exchange forward contracts for trading or speculative purposes. The Group's hedging policy is designed to mitigate the impact of foreign currency exchange rate movements on operating results. The Group principally executes its foreign exchange forward contracts in the retail market in an over-the-counter environment with a high level of price transparency. The market participants and the Group's counterparties are primarily large money center banks and regional banks.

Cash flow hedges

The Group designated certain foreign exchange forward contracts as cash flow hedges when all the requirements of IAS 39 *Financial Instruments* were met. The foreign exchange contracts protect the Group against the variability of forecasted foreign currency cash flows resulting from revenues, cost of revenues, and net asset or liability positions designated in currencies other than the Euro. All hedging relationships are formally documented, and the hedges are designed to offset changes to future cash flows on hedged transactions at the inception of the hedge. The maximum original duration of any contract allowable under the hedging policy is thirteen months. The Group's outstanding foreign exchange forward contracts designated as cash flow hedges have maturities of less than one year. The Group's primary currency pairs used for cash flow hedges are Euro / U.S. dollar, Euro / Australian dollar, Euro / British pound, and Euro / Swedish krona. The notional principal of the foreign exchange contracts was approximately €791 million as of December 31, 2017. The following table summarizes the notional principal of the foreign currency exchange contracts by hedged line item in the condensed statement of operations as of December 31, 2017:

	Notional amount in foreign currency			
	Australian dollar (AUD)	**British pound (GBP)**	**Swedish krona (SEK)**	**U.S. dollar (USD)**
		(in millions)		
Hedged line item in consolidated statement of operations				
Revenue	130	219	1,159	16
Cost of revenue	102	156	779	11
Total	**232**	**375**	**1,938**	**27**

The Group recognizes the foreign exchange contracts from hedging activities as either assets or liabilities on the balance sheet and measures them at fair value. The Group reflects the gain or loss on the effective portion of a cash flow hedge as a component of other reserves and subsequently reclassifies cumulative gains and losses to revenues or cost of revenues, depending on the risk hedged, when the hedged transactions are recorded. If the hedged transactions become probable of not occurring, the corresponding amounts in other reserves would be immediately reclassified to finance costs. The Group evaluates hedge effectiveness at the inception of the hedge prospectively as well as retrospectively and records any ineffective portion of the hedge in finance costs in the consolidated statement of operations. Interest charges or "forward points" on the foreign exchange contracts are excluded from the assessment of hedge effectiveness and are recorded in finance costs in the consolidated statement of operations.

For the year ended December 31, 2017, no material amount of gains or losses were recognized in other comprehensive loss or the statement of operations.

The asset and liability positions of the foreign exchange forward contracts are included in other current assets and derivative liabilities on the consolidated statement of financial position, respectively.

Non designated hedges

Foreign exchange forward contracts that do not meet the requirements in IAS 39 *Financial Instruments* to be designated as a cash flow hedges are measured at fair value. The currency pair for the foreign exchange forward contracts not designated for hedging are Euro/U.S. dollar. The notional amounts of these instruments were approximately USD $310 million and €25 million as of December 31, 2017. For the year ended December 31, 2017, the gain associated with the changes in fair value of these instruments, of €2 million, was recognized in finance income or costs.

The asset positions of the foreign exchange forward contracts not designated for hedging are included in other current assets on the consolidated statement of financial position.

Fair values

Set out below is a comparison of the carrying amounts and fair values of financial assets and liabilities. The carrying amounts of certain financial instruments, including cash and cash equivalents, trade and other receivables, restricted cash, trade and other payables, and accrued expenses approximate fair value due to their relatively short maturities.

	2016		2017	
	Carrying value	Fair value	Carrying value	Fair value
	(in € millions)			
Financial assets				
Cash and cash equivalents	755	755	477	477
Trade and other receivables (Note 15)	300	300	360	360
Short term investments:				
Government securities	262	262	244	244
Agency securities	55	55	7	7
Corporate notes	323	323	330	330
Collateralized reverse purchase agreements	190	190	451	451
Derivatives (not designated for hedging)				
Foreign exchange forwards	—	—	2	2
Derivatives (designated for hedging)				
Foreign exchange forwards	—	—	6	6
Long term investment	—	—	910	910
Restricted cash (Note 14)	21	21	42	42
	1,906	1,906	2,829	2,829
Financial liabilities				
Fair value through profit or loss:				
Convertible Notes (Note 18)	1,106	1,106	944	944
Derivatives (not designated for hedging):				
Contingent options (Note 16)	100	100	3	3
Warrants (Note 16)	34	34	346	346
Derivatives (designated for hedging)				
Foreign exchange forwards	—	—	5	5
Trade and other payables (Note 19)	201	201	341	341
Accrued expenses and other liabilities (Note 20)	674	674	881	881
	2,115	2,115	2,520	2,520

The table below analyses financial instruments carried at fair value, by valuation method. The different levels have been defined in Note 2.

As at December 31, 2016, the Group held the following classes of financial instruments measured at fair value:

Financial assets and liabilities by fair value hierarchy level	Level 1	Level 2	Level 3	2016
		(in € millions)		
Financial assets at fair value				
Available for sale financial assets				
Short term investments:				
Government securities	248	14	—	262
Agency securities	—	55	—	55
Corporate notes	—	323	—	323
Collateralized reverse purchase agreements	—	190	—	190
Total financial assets at fair value by level	**248**	**582**	**—**	**830**
Financial liabilities at fair value				
Fair value through profit or loss:				
Convertible Notes	—	—	1,106	1,106
Derivatives (not designated for hedging):				
Contingent options	—	—	100	100
Warrants	—	—	34	34
Total financial liabilities at fair value by level	**—**	**—**	**1,240**	**1,240**

As at December 31, 2017, the Group held the following classes of financial instruments measured at fair value:

Financial assets and liabilities by fair value hierarchy level	Level 1	Level 2	Level 3	2017
		(in € millions)		
Financial assets at fair value				
Available for sale financial assets				
Short term investments:				
Government securities	206	38	—	244
Agency securities	—	7	—	7
Corporate notes	—	330	—	330
Collateralized reverse purchase agreements	—	451	—	451
Derivatives (not designated for hedging):				
Foreign exchange forwards	—	2	—	2
Derivatives (designated for hedging):				
Foreign exchange forwards	—	6	—	6
Long term investment	—	—	910	910
Total financial assets at fair value by level	**206**	**834**	**910**	**1,950**
Financial liabilities at fair value				
Fair value through profit or loss:				
Convertible Notes	—	—	944	944
Derivatives (not designated for hedging):				
Contingent options	—	—	3	3
Warrants	—	—	346	346
Derivatives (designated for hedging):				
Foreign exchange forwards	—	5	—	5
Total financial liabilities at fair value by level	**—**	**5**	**1,293**	**1,298**

The Group's policy is to recognize transfers into and transfers out of fair value hierarchy levels at the end of the reporting period.

During the years ended December 31, 2016 and 2017 there were no transfers between levels in the fair value hierarchy.

Recurring fair value measurements

The following sections describe the valuation methodologies the Group uses to measure the Level 3 financial instruments at fair value on a recurring basis.

Long term investment

Long term investment consists of a non-controlling equity interest of approximately 9% in Tencent Music Entertainment Group ("TME"), a private company that provides digital music services to users including streaming, online live broadcasts, and karaoke services. In connection with the investment the Group agreed not to transfer its shares of TME for a period of three years from December 15, 2017, subject to limited exceptions, including transfers with TME's prior consent; transfers to certain permitted transferees; transfers pursuant to a tender offer or exchange offer recommended by TME's board of directors for a majority of TME's issued and outstanding securities; transfers pursuant to mergers, consolidations, or other business combination transactions approved by TME's board of directors; transfers to TME or any of its subsidiaries; or transfers that are necessary to avoid regulation as an "investment company" under the U.S. Investment Company Act of 1940, as amended. The investment is classified as an available-for-sale financial asset and carried at fair value through other comprehensive income. The fair value of unquoted ordinary shares has been estimated using unquoted market transactions with close proximity of December 31, 2017, net of transaction costs of €11M which is reflected as a reduction of other reserves within equity.

The fair value of the long term investment will vary over time and is subject to a variety of risks including: company performance, macro-economic, regulatory, industry, and systemic risks of the equity markets overall.

The table below presents the changes in the long term investment as at December 31:

	(in € millions)
At January 1, 2017	—
Equity issued in exchange for long term investment	910
Changes in fair value recorded in other comprehensive loss	—
At December 31, 2017	**910**

The impact on the fair value of the investment in TME using reasonably possible alternative assumptions with an increase or a decrease of TME's share price of 10% results in a range of €819 million to €1,001 million at December 31, 2017.

Fair value of ordinary shares

The valuation of certain items in the consolidated financial statements is consistent with the Group's use of the Probability Weighted Expected Return Method ("PWERM") to value its own shares.

The fair value of the ordinary shares is determined using recent secondary market transactions in our ordinary shares and the PWERM, which is one of the recommended valuation methods to measure fair value in privately held companies with complex equity structures in the American Institute of Certified Public Accountants Practice Guide, *Valuation of Privately-Held-Company Equity Securities Issued as Compensation*. Under this method, discrete future outcomes, including as a public company, non-public company scenarios, and a merger or sale, are weighted based on estimates of the probability of each scenario. In the Group's application of this method, five different future scenarios are identified (high and low case public company, high and low case transaction, and private company). For each scenario, an equity value is calculated based on revenue multiples, derived from listed peer companies, which are applied on different (scenario-dependent) forecasted revenues. For the private company scenario, a discounted cash flow method also is considered in determining the equity value. Ordinary share values are weighted by the probability of each scenario in the valuation model. In addition, an appropriate discount adjustment is incorporated to recognize the lack of marketability due to being a closely held entity. Finally, the impact on the share value of recent financing and secondary trading are considered.

The following weightings were applied to each valuation method:

	2016	2017
PWERM	80 – 100%	50 – 80%
Secondary market transactions	0 – 20%	20 – 50%

The PWERM valuations weighted the different scenarios as follows:

	2016	2017
Market Approach – High Case Public Company	20 – 25%	25 – 40%
Market Approach – Low Case Public Company	35 – 40%	35%
Market Approach – High Case Transaction	4%	4 – 6%
Market Approach – Low Case Transaction	6%	4 – 6%
Private Case – Income and Market Approaches	30%	5 – 30%

The key assumptions used to estimate the fair value of the ordinary shares and contingent options using the PWERM are as follows:

	2016	2017
Revenue multiple used to estimate enterprise value	2.0 – 3.5	2.2 – 4.6
Discount rate (%)	14.0 – 19.5	13.0 – 19.5
Volatility (%)	35.0 – 47.5	30.0 – 37.5

Contingent options

The Group's derivatives include contingent options that provide investors associated with the equity financings with downside protection.

The contingent options are measured on a recurring basis in the consolidated statement of financial position and are Level 3 financial instruments recognized at fair value through the consolidated statement of operations. The contingent options are valued using the models that include the value of the Company's ordinary shares, including the assumptions for probability scenarios and PWERM as determined above. The key assumptions used to estimate the fair value of the options using the PWERM are consistent with those noted above.

Under each scenario, the Group computed the difference between a) the value of the new shares, valued with the embedded contingent options and b) the ordinary shares, valued without the embedded contingent options ("Ordinary Shares") to derive an indication of the value of the contingent options for each scenario. The differential between new shares and the Ordinary Shares were discounted, where appropriate, to present value to arrive at an indication of the value of the contingent options for each scenario at the valuation date. Finally, the indicated values under each scenario were weighted based on the weightings noted above to determine the indicated value of the contingent options.

The impact on the fair value of the contingent options of using reasonably possible alternative assumptions with an increase or a decrease of share price of 10% results in a range of €2 million to €4 million (2016: €80 million to €122 million) at December 31, 2017.

The table below presents the changes in the contingent options liability as at December 31:

	2015	2016	2017
		(in € millions)	
At January 1	**7**	**82**	**100**
Equity financing transactions – contingent options	87	—	—
(Gain)/loss recognized in profit or loss	(12)	18	(97)
At December 31	**82**	**100**	**3**

The contingent options liability is included in derivative liabilities on the consolidated statement of financial position. The change in estimated fair value is recognized within finance income or costs in the consolidated statement of operations.

Warrants

On October 17, 2016, the Company sold, for €27 million, warrants to acquire 128,000 ordinary shares to certain holders that are employees and management of the Group. The exercise price of each warrant is US$2,024.40, which was equal to 1.2 times the fair market value of ordinary shares on the date of issuance. The warrants are exercisable at any time through October 17, 2019.

On July 13, 2017, the Company sold, for €9 million, a warrant to acquire 40,000 ordinary shares to certain holders that are employees and management of the Group. The exercise price of each warrant is US$3,589, which was equal to 1.3 times the fair market value of ordinary shares on date of issuance. The warrants are exercisable at any time through July 2020. The warrants are measured on a recurring basis in the consolidated statement of financial position and are Level 3 financial instruments recognized at fair value through the consolidated statement of operations. The warrants are valued using a Black-Scholes option-pricing model, which includes inputs determined from models that include the value of the Company's ordinary shares, as determined above and additional assumptions used to estimate the fair value of the warrants in the option pricing model as follows:

	2016	2017
Expected term (years)	1.85 – 2.09	0.9 – 1.6
Risk free rate (%)	0.77 – 1.14	1.17 – 1.76
Volatility (%)	35.0 – 37.5	30.0 – 37.5
Share price (US$)	1,687 – 1,776	2,028 – 4,820

The table below presents the changes in the warrants liability as at December 31:

	(in € millions)
At January 1, 2016	—
Issuance of warrants for cash	27
Loss recognized in profit or loss	7
At December 31, 2016	**34**
Issuance of warrant for cash	9
Non cash changes in profit or loss	
Changes in fair value	313
Effect of changes in foreign exchange rates	(10)
At December 31, 2017	**346**

The warrants liability is included in derivative liabilities on the consolidated statement of financial position. The change in estimated fair value is recognized within finance costs in the consolidated statement of operations.

The sensitivity analysis below calculates the impact of increasing and decreasing expected volatility by 10% as well as the impact of increasing or decreasing the expected term by half a year. The following table shows the impact of these changes on finance costs.

	2016	2017
	(in € millions)	
Actual change in fair value recognized within finance costs	7	303
Warrants fair value adjustments increase (decrease) under the following assumption changes		
Volatility decreased by 10%	(4)	—
Volatility increase by 10%	4	—
Expected term decrease by 0.5 year	(7)	(4)
Expected term increase by 0.5 year	6	3

The impact on the fair value of the warrants of using reasonably possible alternative assumptions with an increase or a decrease of share price of 10% results in a range of €21 million to €43 million at December 31, 2016 and €333 million to €361 million at December 31, 2017. Expected volatility did not significantly impact the value of the warrants at December 31, 2017.

Convertible Notes

The Convertible Notes are measured on a recurring basis in the consolidated statement of financial position and are Level 3 financial instruments recognized at fair value through the consolidated statement of operations. At December 31, 2016, the fair value of the debt was determined based on consideration and weighting of two future scenarios, a Near Term Exit (where the debt is convertible into ordinary shares in the case of a qualifying event), and a Private Company Case. All components of the debt under the Near Term Exit and Private Company Case, with the exception of the share cap, which assumes a risk-free discount rate, were discounted at the implied rate on the date of issuance plus the chosen benchmark rate. The calculation under the Private Company Case, assumes the debt is repaid at maturity.

A binomial option pricing model was used to assess the value of the Price Cap Derivative. The key assumptions, including the weighting of the different scenarios and those used in valuing the Price Cap Derivative, were as follows:

	2016
Case – Near Term Exit	70%
Case – Private Company Case	30%

	2016
Risk-free rate (%)	0.6 – 0.7
Discount rate (%)	14.4 – 17.0
Benchmark interest rate (%)	9.4 – 12.0
Volatility (%)	35.0 – 42.5

At December 31, 2017, the Convertible Notes are valued at the assumed exchange to ordinary shares based on the fair value of the Company's ordinary share price. The key assumptions to the fair value of ordinary shares has been discussed above.

The table below presents the changes in the Convertible Notes as at December 31:

	(in € millions)
At January 1, 2016	—
Loan financing transaction – Convertible Notes	861
Loss recognized in profit or loss	245
At December 31, 2016	**1,106**
Non cash changes recognized in profit or loss	
Changes in fair value	666
Effect of changes in foreign exchange rates	(142)
Issuance of shares upon exchange of Convertible Notes	(686)
At December 31, 2017	**944**

The change in estimated fair value is recognized within finance costs in the consolidated statement of operations.

The sensitivity analysis below calculates the impact of increasing or decreasing the expected underlying interest rate by 100 basis points at December 2016. The following table shows the impact of this change on finance costs.

	2016
	(in € millions)
Actual change in fair value recognized within finance costs	245
Convertible Notes fair value adjustments increase (decrease) under the following assumption changes	
Discount rate decreased by 100 basis points	16
Discount rate increased by 100 basis points	(15)

The impact on the fair value of the Convertible Notes of using reasonably possible alternative assumptions with an increase or decrease in share price of 10% results in a range of €1,115 million to €1,101 million at December 31, 2016 and €1,038 million to €849 million at December 31, 2017.

23. Commitments and contingencies

Obligations under leases

The Group leases certain properties under non-cancellable operating lease agreements. The lease terms are between one and seventeen years, and the majority of the lease agreements are renewable at the end of the lease period.

The future minimum lease payments under non-cancellable operating leases as at December 31 are as follows:

	2016	2017
	(in € millions)	
Not later than one year	25	47
Later than one year but not more than 5 years	97	244
More than 5 years	90	478
	212	769

Total lease expenses were €14 million, €19 million, and €52 million for the years ended December 31, 2015, 2016, and 2017, respectively.

The Group also has finance leases for various items of equipment. The obligations under finance leases are secured by the lessor's title to the leased assets. Future minimum lease payments under finance leases and hire purchase contracts, together with the present value of the net minimum lease payments, are disclosed in Note 18.

Commitments

The Group is subject to the following minimum royalty payments associated with its license agreements as at December 31.

	2016	2017
	(in € millions)	
Not later than one year	26	1,060
Later than one year but not more than 5 years	14	635
	40	1,695

Contingencies

Various legal actions, proceedings, and claims are pending or may be instituted or asserted against the Group. These may include but are not limited to matters arising out of alleged infringement of intellectual property; alleged violations of consumer regulations; employment-related matters; and disputes arising out of supplier and other contractual relationships. As a general matter, the music and other content made available on the Group's

service are licensed to the Group by various third parties. Many of these licenses allow rights holders to audit the Group's royalty payments, and any such audit could result in disputes over whether the Group has paid the proper royalties. If such a dispute were to occur, the Group could be required to pay additional royalties, and the amounts involved could be material. The Group expenses legal fees as incurred. The Group records a provision for contingent losses when it is both probable that a liability has been incurred and the amount of the loss can be reasonably estimated. An unfavorable outcome to any legal matter, if material, could have an adverse effect on the Group's operations or its financial position, liquidity, or results of operations.

Since July 2017, six lawsuits alleging unlawful reproduction and distribution of musical compositions have been filed against the Group in (i) the *U.S. District Court for the Middle District of Tennessee (Bluewater Music Services Corporation v. Spotify USA Inc.*, No. 3:17-cv-01051; *Gaudio et al. v. Spotify USA Inc.*, No. 3:17-cv-01052; *Robertson et al. v. Spotify USA Inc.*, No. 3:17-cv-01616; and *A4V Digital, Inc. et al. v. Spotify USA Inc.*, 3:17-cv-01256), (ii) in the *U.S. District Court for the Southern District of Florida (Watson Music Group, LLC v. Spotify USA Inc.*, No. 0:17-cv-62374), and (iii) the *U.S. District Court for the Central District of California (Wixen Music Publishing Inc. v. Spotify USA, Inc.*, 2:17-cv-09288) (alleging that Spotify has infringed the copyrights in over 10,000 musical compositions). The complaints seek an award of damages, including the maximum statutory damages allowed under U.S. copyright law of $150,000 per work infringed. The Group intends to vigorously defend the claims.

24. Related party transactions

Key management compensation

Key management includes members of the Company's executive committee and the board of directors. The compensation paid or payable to key management for Board and employee services includes their participation in share-based compensation arrangements. The disclosure amounts are based on the expense recognized in the consolidated statement of operations in the respective year.

	2015	2016	2017
		(in € millions)	
Key management compensation			
Short term employee benefits	15	4	4
Share-based payments	10	18	17
Post-employment benefits	—	1	—
Termination benefits	—	1	1
	25	24	22

As noted in Note 16, the Company issued warrants to acquire ordinary shares to certain members of key management of the Group.

On April 1, 2016, the Group issued and sold the Convertible Notes to, among others, Rivers Cross Trust, an entity wholly-owned by Mr. McCarthy, the Group's Chief Financial Officer. The original principal amount purchased by Rivers Cross Trust was approximately US$0.2 million. In January 2018, the Convertible Notes, plus accrued interest, were exchanged for ordinary shares. Refer to Note 26.

The Group recognized partner revenues from its associate in Soundtrack Your Brand Sweden AB of €1 million, €2 million, and €3 million during years ended December 31, 2015, 2016 and 2017, respectively.

25. Group information

The Company's principal subsidiaries as at December 31, 2017 are as follows:

Name	Principal activities	Proportion of voting rights and shares held (directly or indirectly)	Country of incorporation
Spotify AB	Main operating company	100%	Sweden
Spotify USA Inc.	USA operating company	100%	USA
Spotify Ltd	Sales, marketing, contract research and development, and customer support	100%	UK
Spotify Norway AS	Sales and marketing	100%	Norway
Spotify Spain S.L.	Sales and marketing	100%	Spain
Spotify GmbH	Sales and marketing	100%	Germany
Spotify France SAS	Sales and marketing	100%	France
Spotify Sweden AB	Sales and marketing	100%	Sweden
Spotify Netherlands B.V.	Sales and marketing	100%	Netherlands
Spotify Canada Inc.	Sales and marketing	100%	Canada
Spotify Australia Pty Ltd	Sales and marketing	100%	Australia
Spotify Brasil Serviços De Música LTDA.	Sales and marketing	100%	Brazil
Spotify Japan K.K	Sales and marketing	100%	Japan
Spotify Singapore Pte Ltd.	Marketing	100%	Singapore

There are no restrictions on the net assets of the Group companies.

Information about associates and joint ventures

The Group holds an equity interest in Soundtrack Your Brand Sweden AB of 17.5%, this interest was diluted in February 2017 from 26.5% resulting from a financing round in which the Group did not participate. The total assets and net assets of Soundtrack Your Brand Sweden AB are not material to the Group.

The Group co-founded a joint arrangement, Symposium Stockholm AB (Symposium), in 2015. In December 2016, the Group divested its interest in Symposium to its joint arrangement partner. This did not have a material impact on the Group's consolidated financial statements.

26. Events after the reporting period

In January 2018, the Group entered into an exchange agreement with holders of the remaining balance of its Convertible Notes, pursuant to which the Group exchanged the remaining US$628 million of Convertible Notes, plus accrued interest of US$16 million, for an aggregate of 235,799 ordinary shares. Pursuant to this exchange agreement, subject to certain conditions, if the Company fails to list its ordinary shares on or prior to July 2, 2018, the Group has agreed to offer to each noteholder the option to unwind the transaction such that the Group purchases back the shares that were issued to such noteholder pursuant to the exchange and will issue such noteholder a new note that is materially identical to its note prior to the exchange.

On February 16, 2018, the Company issued an aggregate of 9,480,030 beneficiary certificates to entities beneficially owned by the Group's founders, Daniel Ek and Martin Lorentzon. The Company's shareholders have authorized the issuance of up to 35,000,000 beneficiary certificates to shareholders of the Company without reserving to the Company's existing shareholders a preemptive right to subscribe for the beneficiary certificates issued. Each beneficiary certificate entitles a shareholder to one vote. The beneficiary certificates carry no economic rights and are issued to provide the holders of such beneficiary certificates with additional voting rights. The beneficiary certificates, subject to certain exceptions, are non-transferable and shall be automatically canceled for no consideration in the case of sale or transfer of the ordinary share to which they are linked. Ten beneficiary certificates are linked to each share.

On February 28, 2018, the Board of Directors of the Company approved a 40-to-one share split of the Company's ordinary shares which will become effective upon approval by the Company's shareholders.

Subsequent to year end, we entered into a service agreement with Google for use of the Google Cloud Platform. The total minimum payments during the first three years of service are approximately €366 million.