



## **VodafoneZiggo Group B.V.**

**Annual Report  
December 31, 2018**

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## FORWARD-LOOKING STATEMENTS

Certain statements in this annual report constitute forward-looking statements. To the extent that statements in this annual report are not recitations of historical fact, such statements constitute forward-looking statements, which, by definition, involve risks and uncertainties that could cause actual results to differ materially from those expressed or implied by such statements. In particular, statements under *Management's Discussion and Analysis of Financial Condition and Results of Operations* may contain forward-looking statements, including statements regarding our business, product, foreign currency and finance strategies, subscriber growth and retention rates, competitive, regulatory and economic factors, the timing and impacts of proposed transactions, the maturity of our market, the anticipated impacts of new legislation (or changes to existing rules and regulations), anticipated changes in our revenue, costs or growth rates, our liquidity, credit risks, foreign currency risks, target leverage levels, our future projected contractual commitments and cash flows and other information and statements that are not historical fact. Where, in any forward-looking statement, we express an expectation or belief as to future results or events, such expectation or belief is expressed in good faith and believed to have a reasonable basis, but there can be no assurance that the expectation or belief will result or be achieved or accomplished. In evaluating these statements, you should consider the risks and uncertainties in the following list, and those described herein, as some but not all of the factors that could cause actual results or events to differ materially from anticipated results or events:

- economic and business conditions and industry trends in the Netherlands;
- the competitive environment in the Netherlands for both the fixed and mobile markets, including competitor responses to our products and services for our residential and business customers;
- fluctuations in currency exchange rates and interest rates;
- instability in global financial markets, including sovereign debt issues and related fiscal reforms;
- consumer disposable income and spending levels, including the availability and amount of individual consumer debt;
- changes in consumer television viewing preferences and habits;
- changes in consumer mobile usage behavior;
- customer acceptance of our existing service offerings, including our cable television, broadband internet, fixed-line telephony, mobile and business service offerings, and of new technology, programming alternatives and other products and services that we may offer in the future;
- the outcome of governmental requests for proposals related to contracts for B2B communication services;
- our ability to manage rapid technological changes;
- our ability to maintain or increase the number of subscriptions to our cable television, broadband internet, fixed-line telephony and mobile service offerings and our average revenue per household;
- our ability to provide satisfactory customer service, including support for new and evolving products and services;
- our ability to maintain or increase rates to our subscribers or to pass through increased costs to our subscribers;
- the impact of our future financial performance, or market conditions generally, on the availability, terms and deployment of capital;
- changes in, or failure or inability to comply with, applicable laws and/or government regulations in the Netherlands and adverse outcomes from regulatory proceedings, including regulation related to interconnect rates;
- government and/or regulatory intervention that requires opening our broadband distribution network to competitors, and/or other regulatory interventions;

- our ability to obtain regulatory approval and satisfy other conditions necessary to close acquisitions and dispositions and the impact of conditions imposed by competition and other regulatory authorities in connection with acquisitions;
- our ability to successfully acquire new businesses and, if acquired, to integrate, realize anticipated efficiencies from, and implement our business plan with respect to the businesses we have acquired or with respect to the formation of the VodafoneZiggo JV;
- changes in laws or treaties relating to taxation, or the interpretation thereof, in the Netherlands;
- changes in laws and government regulations that may impact the availability and cost of capital and the derivative instruments that hedge certain of our financial risks;
- the ability of suppliers and vendors to timely deliver quality products, equipment, software, services and access;
- our ability to secure sufficient and required spectrum for our mobile service offerings in upcoming spectrum auctions;
- the availability of attractive programming for our video services and the costs associated with such programming, including retransmission and copyright fees payable to public and private broadcasters;
- uncertainties inherent in the development and integration of new business lines and business strategies;
- our ability to adequately forecast and plan future network requirements, including the costs and benefits associated with our planned network extensions;
- the availability of capital for the acquisition and/or development of telecommunications networks and services;
- problems we may discover post-closing with the operations, including the internal controls and financial reporting process, of businesses we acquire, including in relation to the VodafoneZiggo JV;
- the leakage of sensitive customer data;
- the outcome of any pending or threatened litigation;
- the loss of key employees and the availability of qualified personnel;
- changes in the nature of key strategic relationships with partners and joint ventures; and
- events that are outside of our control, such as political unrest in international markets, terrorist attacks, malicious human acts, natural disasters, pandemics and other similar events and our ability to effectively continue the business after such an event.

The broadband distribution and mobile service industries are changing rapidly and, therefore, the forward-looking statements of expectations, plans and intent in this annual report are subject to a significant degree of risk. These forward-looking statements and the above-described risks, uncertainties and other factors speak only as of the date of this annual report, and we expressly disclaim any obligation or undertaking to disseminate any updates or revisions to any forward-looking statement contained herein, to reflect any change in our expectations with regard thereto, or any other change in events, conditions or circumstances on which any such statement is based. Readers are cautioned not to place undue reliance on any forward-looking statement.

## BUSINESS OF VODAFONEZIGGO

*In this “Business of VodafoneZiggo” section, unless the context otherwise requires, the terms “we,” “our,” “our company” and “us” may refer, as the context requires, to VodafoneZiggo (or its predecessor, herein referred to as “Old Ziggo”) or collectively to VodafoneZiggo (or its predecessor) and its subsidiaries after giving effect to the JV Transaction as described in note 5 to our consolidated financial statements. Unless otherwise indicated, operational and statistical data, including subscriber statistics and product offerings, are as of December 31, 2018.*

### Introduction

VodafoneZiggo Group B.V. (**VodafoneZiggo**) provides video, broadband internet, fixed-line telephony, and mobile services to residential and business customers in the Netherlands. The primary subsidiaries of VodafoneZiggo consist of (i) Ziggo Holding B.V. (**Ziggo**) and its subsidiaries, including Ziggo Services B.V. (**Ziggo Services**), and (ii) Vodafone NL (as defined below).

Prior to the closing of the JV Transaction, VodafoneZiggo was a wholly-owned subsidiary of Liberty Global plc (**Liberty Global**). On December 31, 2016, upon closing the JV Transaction, VodafoneZiggo became a wholly-owned subsidiary of VodafoneZiggo Group Holding B.V. (**VodafoneZiggo Group Holding**). VodafoneZiggo Group Holding is a 50:50 joint venture (the **VodafoneZiggo JV**) between Vodafone Group Plc (**Vodafone**) and Liberty Global. In connection with the closing of the JV Transaction, Vodafone Libertel B.V. (**Vodafone NL**) became an indirect wholly-owned subsidiary of VodafoneZiggo. Prior to the closing of the JV Transaction, Vodafone NL and its subsidiaries operated Vodafone’s mobile business in the Netherlands.

Liberty Global is the world’s largest international television and broadband company that develops market-leading products delivered through next-generation networks that, as of December 31, 2018, connected over 21 million customers subscribing to 45 million TV, broadband internet, and telephony services. As of December 31, 2018, Liberty Global also served over six million mobile subscribers and offered WiFi service through 12 million access points across its footprint.

Vodafone is one of the world’s largest telecommunications companies and has mobile operations in 25 countries, partners with mobile networks in 46 more, and fixed broadband operations in 18 markets. As of December 31, 2018, Vodafone Group had 700 million mobile customers and 21 million fixed broadband customers.

In connection with the JV Transaction, on December 31, 2016, Liberty Global and Vodafone entered into a shareholders agreement (the **Shareholders Agreement**) with VodafoneZiggo Group Holding in respect of the VodafoneZiggo JV. Each of Liberty Global and Vodafone (each a **Shareholder**) holds 50% of the issued share capital of VodafoneZiggo Group Holding. The Shareholders Agreement contains customary provisions for the governance of a 50:50 joint venture that result in Liberty Global and Vodafone having joint control over decision making with respect to the VodafoneZiggo JV. We also entered into a framework agreement with Vodafone and Liberty Global to provide us access to each of their expertise in the telecommunications media technology business. For additional information on the foregoing agreements, see note 5 to our consolidated financial statements.

In December 2018, an intra-group reorganization took place within the VodafoneZiggo group. This reorganization comprised of inter alia the following steps:

- Legal merger between Ziggo B.V. (as acquiring company) and Vodafone Nederland Holding III B.V. (as disappearing company) which became effective on December 28, 2018;
- Legal merger between Amsterdamse Beheer- en Consultingmaatschappij B.V. (as acquiring company) and Torensplits II B.V. (as disappearing company) which became effective on December 29, 2018;
- Legal merger between Ziggo Secured Finance B.V. (as acquiring company) and Ziggo Secured Finance II B.V. (as disappearing company) which became effective on December 28, 2018;
- Legal merger between Ziggo Bond Finance B.V. (as acquiring company) and Ziggo Secured Finance B.V. (as disappearing company) which became effective on December 29, 2018;
- Legal merger between VodafoneZiggo Group B.V. (as acquiring company) and Ziggo Bond Finance B.V. (as disappearing company) which became effective on December 30, 2018; and
- Cancellation of Ziggo Secured Finance Partnership on December 27, 2018.

The following table presents our operating statistics as of December 31, 2018:

**Footprint**

Homes Passed <sup>1</sup>	7,199,000
Two-way Homes Passed <sup>2</sup>	7,185,100

**Subscribers (RGUs)**

Basic Video <sup>3</sup>	517,700
Enhanced Video <sup>4</sup>	3,385,000
Total Video	3,902,700
Internet <sup>5</sup>	3,317,200
Telephony <sup>6</sup>	2,499,600
Total RGUs	9,719,500

**Penetration**

Enhanced Video Subscribers as a % of Total Video Subscribers <sup>7</sup>	86.7%
Internet as a % of Two-way Homes Passed <sup>8</sup>	46.2%
Telephony as a % of Two-way Homes Passed <sup>8</sup>	34.8%

**Fixed Customer Relationships**

Fixed Customer Relationships <sup>9</sup>	3,876,600
RGUs per Fixed Customer Relationship	2.51

**Fixed Customer Bundling**

Single-Play	15.0%
Double-Play	20.9%
Triple-Play	64.1%

**Mobile SIMs<sup>10</sup>**

Postpaid	4,215,000
Prepaid	751,000
Total Mobile	4,966,000

**Convergence**

Converged <sup>11</sup> Households	1,059,000
Converged <sup>11</sup> SIMs	1,540,000
Converged <sup>11</sup> Households as % of Internet RGUs	31.9%

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- Homes Passed are homes, residential multiple dwelling units or commercial units that can be connected to our networks without materially extending the distribution plant. Our Homes Passed counts are based on internally maintained databases of connected addresses, which are updated monthly. Due to the fact that we do not own the partner networks, we do not report homes passed for partner networks.
  - Two-way Homes Passed are Homes Passed by those sections of our networks that are technologically capable of providing two-way services, including video, internet, and telephony services.
  - Basic Video Subscriber is a home, residential multiple dwelling unit or commercial unit that receives our video service over our broadband network either via an analog video signal or via a digital video signal without subscribing to any recurring monthly service that requires the use of encryption-enabling technology. Encryption-enabling technology includes smart cards, or other integrated or virtual technologies that we use to provide our enhanced service offerings. We count Revenue Generating Units ("RGUs") on a unique premises basis. In other words, a subscriber with multiple outlets in one premises is counted as one RGU and a subscriber with two homes and a subscription to our video service at each home is counted as two RGUs.
  - Enhanced Video Subscriber is a home, residential multiple dwelling unit or commercial unit that receives our video service over our broadband network or through a partner network via a digital video signal while subscribing to any recurring monthly service that requires the use of

encryption-enabling technology. Enhanced Video Subscribers are counted on a unique premises basis. For example, a subscriber with one or more set-top boxes that receives our video service in one premises is generally counted as just one subscriber. An Enhanced Video Subscriber is not counted as a Basic Video Subscriber. As we migrate customers from basic to enhanced video services, we report a decrease in our Basic Video Subscribers equal to the increase in our Enhanced Video Subscribers. Subscribers to enhanced video services provided by our operations over partner networks receive basic video services from the partner networks as opposed to our operations.

5. Internet Subscriber is a home, residential multiple dwelling unit or commercial unit that receives internet services over our networks, or that we service through a partner network.
6. Telephony Subscriber is a home, residential multiple dwelling unit or commercial unit that receives voice services over our networks, or that we service through a partner network. Telephony Subscribers exclude mobile telephony subscribers.
7. Enhanced video penetration is calculated by dividing the number of enhanced video subscribers by the total number of basic and enhanced video subscribers.
8. Internet and telephony penetration is calculated by dividing the number of internet RGUs and telephony RGUs, respectively, by total Two-way Homes Passed.
9. Fixed Customer Relationships are the number of customers who receive at least one of our video, internet or telephony services that we count as RGUs, without regard to which or to how many services they subscribe. Fixed Customer Relationships generally are counted on a unique premises basis. Accordingly, if an individual receives our services in two premises (e.g., a primary home and a vacation home), that individual generally will count as two Fixed Customer Relationships. We exclude mobile-only customers from Fixed Customer Relationships.
10. Our mobile subscriber count represents the number of active subscriber identification module (“SIM”) cards in service rather than services provided. For example, if a mobile subscriber has both a data and voice plan on a smartphone this would equate to one mobile subscriber. Alternatively, a subscriber who has a voice and data plan for a mobile handset and a data plan for a laptop (mobile broadband or secondary SIM) would be counted as two mobile subscribers. Our mobile subscriber count includes both prepaid and postpaid plans. Customers who do not pay a recurring monthly fee are excluded from our prepaid mobile telephony subscriber counts after a period of inactivity of 15 months.
11. Converged households or converged SIMs represent customers in either our Consumer or small office/home office (“SOHO”, generally fewer than 5 employees) segment that subscribe to both a fixed-line digital TV and an internet service (like Connect Start, Complete and Max) and a Vodafone branded postpaid mobile telephony service (Start and Red).

## History

We provide video, broadband internet, fixed-line telephony, and mobile services to residential and business customers in the Netherlands. Our primary subsidiaries consist of (i) Ziggo Services, (ii) Ziggo Holding, and (iii) effective December 31, 2016 upon closing the JV Transaction, as defined and described below, Vodafone NL. Prior to the closing of the JV Transaction, VodafoneZiggo was a wholly-owned subsidiary of Liberty Global. On December 31, 2016, and upon closing the JV Transaction, VodafoneZiggo became a wholly-owned subsidiary of VodafoneZiggo Group Holding. VodafoneZiggo Group Holding is a 50:50 joint venture among Vodafone and Liberty Global. Also upon completion of the JV Transaction, Vodafone NL became an indirect wholly-owned subsidiary of VodafoneZiggo. Vodafone NL and its subsidiaries operated Vodafone’s mobile business in the Netherlands.

## Products and Services

We provide services either individually or bundled as a package for video, broadband internet, fixed-line telephony, and mobile services to residential and business customers. Our bundled services offerings include “**double-play**” for two services, “**triple-play**” for three services, and “**quad-play**” for four services.

### *Video Services*

Our video service is one of the key foundations of our product offerings. Our cable operation offers multiple tiers of digital video programming and audio services starting with a basic video service. Subscribers to our basic video service pay a fixed monthly fee and generally receive at least 45 digital or analog video channels (including four high definition “**HD**” channels) and several digital and analog radio channels. Because our basic digital service is unencrypted, the cost of our digital service is the same cost as the monthly fee of our analog service. We tailor our video services based on programming preferences, culture, demographics, and regulatory requirements. Our channel offerings include general entertainment, sports, movies, documentaries, lifestyles, news, adult, children, and ethnic and foreign channels.

We also offer a variety of premium channel packages to meet the special interests of our subscribers. For an additional monthly charge, a subscriber may upgrade to one of our extended digital tier services and receive an increased number of video and radio channels, including the channels in the basic tier service and additional HD channels. Digital subscribers may also subscribe to one or more packages of premium channels for an additional monthly charge.

To meet customer demands, we have enhanced our video services with various products that enable our customers to control when, where and how they watch their programming. These products range from digital video recorders (**DVRs**) to our multimedia home gateway system "**MediaBox XL**" (former Horizon TV), as well as various mobile applications (**apps**). MediaBox XL has an interface, that enables customers to view and share, across multiple devices, linear channels, video-on-demand (**VoD**) programming, and personal media content and to pause, replay, and record programming.

For our MediaBox XL subscribers, we offer various features and functionalities, including television apps for various online services (such as YouTube, Netflix, social platforms, sports experience, music, news, and games). We also offer an online mobile app for viewing on a second screen called "**Ziggo GO**". Ziggo GO is available on mobile devices (iOS, Android, and Windows) and via an internet portal that allows video customers to view linear channels and VoD, with a substantial part of this content available outside of the home. For MediaBox XL customers, when in the home, the second screen device can act as a remote control. Additionally, through Ziggo GO, customers have the ability to remotely schedule the recording of a television program on their MediaBox XL box at home.

One of our key video services is "**Replay TV**". Replay TV records virtually all programs across numerous linear channels. The recordings are available up to seven days after the original broadcast. This allows our customers to catch-up on their favorite television shows without having to set their DVR or browse separate menus on their set-top boxes. Instead, customers can open the electronic programming guide, scroll back and replay linear programming instantly. Replay TV also allows our customers to replay a television program from the start even while the live broadcast is in progress. Replay TV is accessible through MediaBox XL or Ziggo GO.

We offer pay-per-view programming through VoD giving subscribers access to thousands of movies and television series. We continue to develop our VoD services to provide a growing collection of programming from local and international suppliers, such as ABC/Disney, Viacom, the BBC, and Sony, among others. Our subscription VoD service "**Movies & Series**" is included in our mid-tier enhanced video service accessed through MediaBox XL and is available for an additional fee with our basic video services. We also offer exclusive HBO programming through our "**Movies & Series L**" VoD service and is included in our enhanced video service as part of our converged services (see *converged services*). For an additional monthly charge, we also offer approximately 40 additional TV channels on top of the exclusive HBO programming through our "**Movies & Series XL**" VoD service which is included in our high tier enhanced video service. Our VoD services, including catch-up TV, are available on a subscription or a transaction basis, depending on the tier of enhanced video service selected by the subscriber.

In April 2018, we started with digitalizing our TV service offerings. Customers watching analogue cable TV will be switching to digital in a region-by-region phased rollout.

### ***WiFi and Internet Services***

Connectivity is a building block for vibrant communities. Our fiber-rich broadband network is the backbone of our fixed-line business and the basis of our connectivity strategy. To meet our customers' expectations to be seamlessly connected, we are investing in our broadband network, mobile, WiFi solutions, and customer premises equipment.

Internet speed is of crucial importance to our customers, as they spend more time streaming video and other bandwidth-heavy services on multiple devices. Our extensive broadband network enables us to deliver ultra high-speed internet service across our footprint. Our residential subscribers access the internet via cable modems connected to their internet capable devices, or wirelessly via a WiFi gateway device. We offer multiple tiers of broadband internet service ranging from a basic service of 40 Mbps to an ultra high-speed internet service of 200 Mbps, 400 Mbps, and 500 Mbps. The speed of service depends on the tier of service selected. In addition, by leveraging our fiber-rich broadband network, we are well positioned to deliver Gigabit (**GB**) services in the Netherlands. To this end, we are deploying the next generation Data Over Cable Service Interface Specification (**DOCSIS**) 3.1 technology in the future. When fully developed, we will have the potential to extend our download speeds to at least 1 Gbps. DOCSIS technology is an international standard that defines the requirements for data transmission over a cable system.

Our internet service generally includes email, address book, security (e.g., anti-virus, anti-spyware, firewall, and spam protection) and, parental controls. We offer value-added broadband services for an incremental charge. These services include additional security packages for multiple devices. We offer mobile broadband services with internet access as described above. Subscribers to our internet service pay a monthly fee based on the tier of service selected. In addition to the monthly fee, customers pay an activation service fee upon subscribing to an internet service. This one-time fee may be waived for promotional reasons. We determine pricing for each different tier of internet service through an analysis of speed, market conditions, and other factors.

In 2016, we introduced the "**Connect Box**", a dedicated connectivity device that delivers superior in-home WiFi coverage. The Connect Box is a WiFi and telephony gateway that enables us to maximize the impact of our ultrafast broadband networks by providing reliable wireless connectivity anywhere in the home. It has an automatic WiFi optimization function, which selects the best possible wireless frequency at any given time. This gateway can be self-installed and allows customers to customize their home WiFi service. Robust wireless connectivity is increasingly important with our customers spending more and more time using bandwidth-heavy services on multiple devices. In addition, in 2017, we have added WiFi boosters to our product portfolio to support customers in their WiFi connectivity, which we have actively promoted through the Ziggo Power Promise campaign.

We have deployed community WiFi via routers in our customers' homes (the **Community WiFi**), which provides secure access to the internet for our customers. Community WiFi is enabled by a cable modem WiFi access point (**WiFi modem**), the Connect Box, or the MediaBox XL box of our internet customers. The Community WiFi is created through the sharing of access to the public channel of our customers' home wireless routers. Use of the Community WiFi does not affect the internet speeds of our customers. The public channel is a separate network from the secure private network used by the customer within the home and is automatically enabled when the WiFi modem is installed. Access is free for our internet customers. Our customers also have access to an extensive network of public WiFi access points, (covering stadiums, shopping centers, and other public places). We have expanded our Community WiFi through access points covering public places. At December 31, 2018, we had approximately two million WiFi access points in our footprint. In addition, our internet customers have access to the Community WiFi in other European countries through an arrangement with Liberty Global.

### ***Mobile Services***

Mobile services are another key building block for us to provide customers with seamless connectivity. We provide our mobile services nationwide through our long-term evolution (**LTE**) wireless services, also called "4G", as well as our 2G and 3G networks. We have over 4,700 base stations with over 95% of them capable of high capacity transmission. This allows us to provide reliable high speed data transmission and ample data capacity in and out of the home. Our mobile subscribers are able to call, text, access the internet, stream music, and watch videos both in and out of the home. We also provide mobile wholesale access services, hosting several MVNOs (**Mobile Virtual Network Operator**) on our networks.

We typically charge a one-time activation fee to our customers for each SIM card. Our mobile services typically include voice, short message service (**SMS**) and internet access. Calls, both within and out of network, incur a charge or are covered under a postpaid monthly service plan. Our mobile services are primarily on a postpaid basis with customers subscribing to services for periods ranging from activation for a SIM-only contract to up to 24 months, with the latter often taken with a mobile handset and the option to pay off the handset over a period not to exceed 24 months. We also offer a prepaid service, where the customers pay in advance for a pre-determined amount of airtime or data and generally have no minimum contract term.

In June 2018, Vodafone launched a new type of subscription, "**Red Together**". This offer enables family members to merge subscriptions, resulting in one large data bundle for all to share. Customers opting for this offer receive twice the amount of data plus unlimited voice in the Netherlands as well as all other countries in the European Union (**EU**). Customers can create a Red Together group starting from two persons; registering their subscriptions under one account. The group administrator can use various functionalities in the My Vodafone app, like monitoring usage and apportioning data. It is also possible to create notifications for each user and to activate a pause button.

The offer of a Red Together subscription has a Red Together "**Extra**" option. The Red Together subscription costs €45 and consists of 40 GB with unlimited voice and SMS and 100 voice minutes from the Netherlands to numbers in the EU. The 'Extra' option costs €15, has the same voice and SMS benefits, but has no data bundle until the subscriptions have been merged. In doing so, the amount of data doubles, amounting to 80 GB for all to share. When combined with Ziggo, the nonstop free extras apply as well: customers receive a €5 discount and the data bundle is doubled once again to 160 GB. It is possible for any third, fourth or fifth family member to take out an Extra subscription and join the group, thus benefiting from the shared data bundle.

### ***Fixed-line Telephony Services***

Multi-feature telephony services are available through voice-over-internet-protocol (**VoIP**) technology. We pay interconnect fees to other telephony and internet providers when calls by our subscribers terminate on another network and receive similar fees from providers when calls by their users terminate on our network through interconnection points.

Our telephony service may be selected in combination with one or more of our other services. Our telephony service includes a basic fixed-line telephony product for line rental and various calling plans, which may consist of any of the following: unlimited network, national or international calling, unlimited off-peak calling and minute packages, including calls to fixed and mobile

phones. We also offer value added services, such as a personal call manager, unified messaging and a second or third phone line at an incremental cost.

### ***Converged services***

We offer additional benefits to customers that are both mobile and fixed customers of VodafoneZiggo. Eligible video customers taking a broadband product and a postpaid mobile subscription receive extra benefits at no incremental cost. Benefits include double mobile data allowance, an extra premium TV package consisting of either HBO, Ziggo Sport Total or Kids entertainment and an internet security package. A monthly discount of €5 will be given for quad-play acquisition and retention purposes, providing a premium converged offer at competitive prices to new and renewing customers.

### ***Business Services***

In addition to our residential services, we offer business services. For business and public sector organizations, we provide a range of voice, advanced data, video, wireless and cloud-based services, as well as mobile and converged fixed-mobile services. Our business customers include SOHO, small businesses and medium and large enterprises. We also provide our services, and in particular mobile services, on a wholesale basis to other operators.

In June 2018, Vodafone completed a long term evolution for machines network (**LTE-M**), with national coverage. LTE-M efficiently connects devices with the internet. LTE-M technology is declared a fundamental part of 5G technology by the GSM Association (the mobile network operators trade body). With LTE-M Vodafone expands its Internet of Things (**IoT**) portfolio for customers, which makes it the first provider to offer the most complete radio network for IoT services. This is another major step in the development of 5G, which further enhances the speed and reliability of the network. With the launch of the new network business customers can get started with smart solutions. With LTE-M, online devices use lesser battery capacity than with normal 2, 3 and 4G connections. Vodafone already has a Narrowband-Internet of Things (**NB-IoT**) network with national coverage.

Our business services are designed and differentiated to meet the specific needs of our business customers with a wide range of connectivity services. These services fall into six broad categories:

- mobile services, including voice calling, SMS and wireless data anywhere in the world;
- broadband data for SOHO and small customers, based on residential services and differentiated with higher speed and business service level agreements;
- enterprise data services for medium to large customers: internet access, virtual private networks, high capacity point-to-point services, and managed WiFi networks;
- enterprise voice services, both using ISDN and VOIP technologies, and Service Number services;
- bulk video services with B2B and B2C video applications for targeted industries, like health and student-housing; and
- value added (ICT based) services like: Unified Communications, IoT, Hosted Cloud, Security.

In addition we offer a wide range of Value Added Business Services:

- hosted telephony, hosted private branch exchange solutions and conferencing options;
- webhosting, managed security systems and storage, and cloud enabled software;
- unified communications and workplace solutions combining both mobile and fixed-line services;
- mobile connectivity and applications for Internet of Things services; and
- managed end-point security and mobile device management.

With over 235,000 converged seats (Skype for Business, One Net Enterprise, and private cloud hosting) installed in 2018, we are now one of the leading providers of integrated unified communication solutions to B2B customers in the Netherlands.

Our business services are provided to customers at contractually established prices based on; the size of the business, type of services received and the volume and duration of the service agreement. SOHO and small business customers pay business market prices on a monthly subscription basis to receive enhanced service levels and business features that support their needs. For more advanced business services, these customers generally enter into a service agreement. For medium to large business customers, we enter into individual agreements that address their needs. These agreements are generally contracted for a period of one to five years.

## **Operations**

### *Marketing and Sales*

We market and sell our products to customers using a broad range of sales channels, primarily online sales through our website, inbound and outbound telemarketing, and partner retailers. We also sell our services direct to the customers at certain marketing events and through our own retail stores: 165 Vodafone NL stores, 4 Ziggo stores and 48 Ziggo shop-in-shop in MediaMarkt. (Since 2016, we have a shop-in-shop partnership agreement with the largest electronic retailer in the Netherlands (MediaMarkt), extending our retail presence by 48 locations).

We encourage customers to purchase our services and products through our website. We believe our website provides customers a clear explanation of our services and pricing. We currently outsource our inbound and outbound telemarketing operations to external service providers. We also have exclusive stores and partner shops in various cities in our footprint. We further target residential customers through partnerships with retail outlets, such as multi-media retailers, electronics and telecommunications stores. The sales through these partnerships generally focus on enhanced video services.

For our business sales, we use multiple sales channels, both direct and indirect, to better service our customers. For SOHO and small customers we use a mix of in- and outbound service desks and increasingly on-line channels. We have a team of dedicated account managers who work exclusively with our key account customers. Furthermore, we have an extensive network and support program for external business partners who sell our products and services to small and medium customers as well as manage these customer relationships.

### *Customer Service*

Our customer service operations are responsible for all customer care activities, including handling customer queries and complaints. Their focus is on developing and enhancing customer lifetime management as well as offline and online marketing integration. Customer service also provides inbound telemarketing and sales support functions for residential and SOHO customers. To reduce our customer service call volume, we utilize an online customer web service, 'Ziggo Community'. In addition, we utilize an automated voice response center and social media like Twitter and Facebook to reduce customer call volume. We also operate dedicated customer service centers throughout the Netherlands.

Our customer service agents are skilled in multiple areas, including marketing campaigns, customer care, and sales for a variety of products as well as technical service. All of our customer services agents are regularly trained in soft skills and on new product offerings. We also have a specialized team for sales and customer care in relation to our business services and also teams specifically focusing on customer retention as well as complaint management.

We are required to operate a "switch desk", which enables customers to transition between different television, internet access, and telephony (including mobile) service providers with minimal disruption to their service.

For our business services related to our SOHO, small, medium, and corporate customers we operate dedicated service desks.

### *Network and Technology*

Our video, broadband internet, and fixed-line telephony services are transmitted over a hybrid fiber coaxial cable network. This network is composed of national and regional fiber networks, which are connected to the home over the last few hundred meters by coaxial cable. This network allows for two-way communications and is flexible enough to support our current services, as well as new services.

We also provide our services over certain partner networks. We offer this service on an exclusive and non-exclusive basis to small cable network owners who have not developed the capability to offer premium products, such as digital video, broadband internet, and telephony. The 7.2 million homes passed on our network exclude homes reached by a partner network.

To connect ‘remote’ locations we lease fiber connectivity from fiber wholesale suppliers, when economically feasible.

We closely monitor our network capacity and customer usage. Where necessary, we increase our capacity incrementally, for instance by splitting nodes in our network. We also continue to explore new technologies that will enhance our customers’ connected entertainment experience, such as:

- recapturing bandwidth and optimizing our networks by increasing the number of nodes in our markets and using digital compression technologies;
- increasing the bandwidth of our hybrid fiber coaxial cable network to 1.2GHz;
- enhancing our network to accommodate additional business services;
- using wireless technologies to extend our services outside the home;
- offering remote access to our video services through personal computers, smart phones, and tablets;
- introducing new Mediabox Next with 4k ultra HD and voice control remote capabilities; and
- introducing online media sharing and streaming or cloud based video.

To deliver our mobile services, we acquire mobile spectrum licenses for various radio frequencies. Vodafone NL has steadily increased its mobile spectrum license holdings to boost network quality and its capacity to carry more data. As of December 31, 2018, we had over 4,700 base stations in the Netherlands of which approximately 95% were connected with high capacity transmission. High capacity transmission allows us to provide customers with broad coverage both indoors and outdoors, a reliable connection, high speed data transmission and ample data capacity. We continue to evaluate and acquire additional mobile spectrum licenses and extend our licenses, enabling us to expand our network quality and capacity. The majority of our mobile spectrum licenses expire in 2030 and the license for the 2100 MHz band expires in 2020. The Dutch Government is planning to re-auction the 2100 MHz license used by Vodafone NL in late 2019 or early 2020, as well as licenses for the new 700 and 1400 MHz bands.

### ***Supply Sources***

For our video services, we license most of our programming and on-demand offerings from content providers and third-party rights holders, including broadcasters and cable programming networks. For such licenses, we generally pay a monthly fee on a per channel or per subscriber basis with minimum pay guarantees in certain cases. We generally enter into long-term programming licenses with volume discounts and marketing support. For on-demand programming, we generally enter into shorter-term agreements and also pay royalties based on our subscribers’ usage. For our distribution agreements, we seek to include the rights to offer the licensed programming to our customers through multiple delivery platforms and through our apps for smart phones and tablets. In addition, we own the Ziggo Sport Channel, which provides full coverage of the Premier League, the Primera Division ‘La Liga’, Formula One and other leading sports events to our video customers.

We purchase each type of customer premises equipment from a number of different suppliers. Customer premises equipment includes set-top boxes, WiFi routers, DVRs, tuners, modems and similar devices. For each type of equipment, we retain specialists to provide customer support. Similarly, we use a variety of suppliers for mobile handsets to offer to our customers taking mobile services.

We license software products, including email and security software, and content, such as news feeds, from several suppliers for our internet services. The agreements for these products require us to pay a per subscriber fee for software licenses and a share of advertising revenue for content licenses. For our mobile network operations and our fixed-line telephony services, we license software products, such as voicemail, text messaging, and caller ID, from a variety of suppliers. For these licenses, we seek to enter into long-term contracts, which generally require us to pay based on usage of the services.

### **Competition**

The Netherlands market for video, broadband internet, fixed-line telephony, and mobile services is highly competitive and rapidly evolving. Technological advances and product innovations have increased and are likely to continue to increase giving customers several options for the provision of their telecommunications services. Our customers want access to high quality telecommunication services that allow for seamless connectivity. Accordingly, our ability to offer converged services (video, internet, fixed telephone, and mobile) is a key component of our strategy. We compete with companies that provide fixed-mobile

convergence bundles, as well as companies that are established in one or more communication products and services. Consequently, our business faces significant competition.

For all our services, we compete with the provision of similar services from operator KPN N.V. (**KPN**), T-Mobile Netherlands B.V. (**T-Mobile**), Tele2 Netherlands Holding B.V. (**Tele2**, as of January 2019 merged with T-Mobile), and smaller parties. KPN and other competitors using KPN's fixed network offer (i) internet protocol television (**IPTV**) over fiber optic lines where the fiber is to the home, cabinet, or building or to the node networks (fiber-to-the-home/-cabinet/-building/-node is referred to herein as **FTTx**) networks and through broadband internet connections using DSL or very high-speed DSL technology (**VDSL**), KPN's network also offers several enhancements to VDSL, such as "vectoring" and "pair bonding", and (ii) digital terrestrial television (**DTT**). Where KPN has enhanced its VDSL system, it allows for offers of broadband internet with download speeds of 100 Mbps and on its FTTx networks, it allows for download speeds of up to 1 Gbps. The ability of competitors to offer a bundled triple-play of video, broadband internet and telephony services and fixed-mobile convergence services, creates significant competitive pressure on our operations, including the pricing and bundling of our video products. The video services of competitors include many of the interactive features we offer our subscribers (e.g. KPN introduced a new set-top box that is capable of 4K TV that is expected to enhance the video experience for its customers). In addition, KPN has its own over-the-top (**OTT**) video service. Portions of our network have been overbuilt by KPN's and other providers' FTTx networks and expansion of these networks is expected to continue.

We also experience competition from (i) direct-to-home satellite (**DTH**) service providers, such as Canal Digital, a subsidiary of M7 Group S.A., (ii) OTT video content aggregators utilizing our or our competitors' high-speed internet connections, and (iii) movie theaters, video stores, video websites and home video products. In addition, we compete to varying degrees with other sources of information and entertainment, such as online entertainment, newspapers, magazines, books, live entertainment/ concerts and sporting events. Free-to-air television is not a significant competitive factor because the Netherlands is predominately a pay television market.

We compete with mobile operators KPN and T-Mobile (as of January 2019 merged with Tele2) in the mobile market, offering 2, 3 and 4G services, where pressure on market price continues, characterized by aggressive promotional campaigns, heavy marketing spend, and increasing data bundles. Furthermore, there is increasing competition from MVNO's, some of which focus on niche segments such as no frills, youth or ethnic markets. While in the business market, we see growing customer requirements to provide unified communication solutions with a focus on employee mobility, seamless fixed and mobile transition, and digital workspace.

Connectivity Services in the high end business market are also offered by competitors like Eurofiber (nationwide fiber access services) and international service providers like British Telecom, Colt, etc.

In the business segment we also compete with service providers offering 'value added services', mostly in OTT service models based on Hosted Cloud technologies. These can be both local providers with nationwide coverage and international cloud hosting providers like Microsoft, Amazon Web Services, IBM, etc.

Changes in market share are driven primarily by the combination of price and quality of services provided. To improve our competitive position, we continuously monitor and update our portfolios.

We offer attractive bundle options, plus fixed-mobile convergence options, allowing our subscribers the ability to select various combinations of services to meet their needs. Our competitive strategy with respect to our services includes:

- Video services: We include MediaBox XL, Replay TV, and Movies & Series in our extended digital video tier offers. Ziggo GO is also available, providing subscribers the ability to watch linear and VoD programming through a second or third screen application on smart phones, tablets, and laptops and to record programs remotely. In addition, we continue to improve the quality of our programming and modify our video options by offering attractive content packages.
- Mobile services: We offer a wide range of 2, 3, and 4G mobile services and are expanding our Community WiFi network. We also continue to invest in our mobile network to improve the availability and quality of our services.
- Broadband internet services: We promote our speeds of up to 400 Mbps (500Mbps at SOHO) and we seek to increase the maximum speed of our connections by fully utilizing the technical capabilities of DOCSIS 3.0 technology of our cable system. We expect the internet speeds on our network to increase with the deployment of our next generation gateways that will enable DOCSIS 3.1 on our cable networks.

- Fixed-line telephony services: We position our services as “anytime”, “anywhere”, and “any destination” and offer a variety of innovative calling plans to meet the needs of our customers, such as national or international calling, unlimited off-peak calling and minute packages, including calls to fixed and mobile phones.

## Regulatory Matters

For a description of current regulatory developments in the Netherlands, which will affect our operations, see the “Regulatory” section in this annual report.

## Other

In addition to the foregoing items, we have contingent liabilities related to (i) legal proceedings, (ii) wage, property, VAT/sales and other tax issues, (iii) disputes over interconnection fees, and (iv) other matters arising in the ordinary course of business. We expect that the amounts, if any, which may be required to satisfy these contingencies will not be material in relation to our financial condition or results of operations.

# REGULATORY

## Overview

The following section provides a summary of certain of our regulatory requirements and obligations in the Dutch market. This description is not intended to be a comprehensive description of all regulation in this area nor a review of specific obligations which have been imposed on us. Adverse regulatory developments could subject our business to a number of risks. Regulation could limit growth, revenue, and the number and types of services offered and could lead to increased operating costs and capital expenditures. In addition, regulation may restrict our operations and subject them to further competitive pressure, including pricing restrictions, interconnect and other access obligations, and restrictions or controls on content. Failure to comply with current or future regulation could expose our businesses to penalties.

The video distribution, broadband internet, fixed-line telephony and mobile businesses are regulated at the EU level. In the Netherlands, these regulations are implemented through the Telecommunicatiewet (the Dutch Telecommunications Act, “**DTA**”) and the Mediawet (the Dutch Media Act, “**DMA**”) and related legislation and regulations. The Authority for Consumers and Markets (“**ACM**”, Autoriteit Consument & Markt), in which the former Independent Post and Telecommunications Authority (“**OPTA**”, Onafhankelijke Post en Telecommunicatie Autoriteit) has been integrated, and the Dutch Radiocommunications Agency (“**AT**”, Agentschap Telecom) supervise and enforce compliance with certain parts of the DTA. Pursuant to the DTA, the ACM is designated as a National Regulatory Authority (**NRA**). The Dutch Media Authority (“**CvdM**”, Commissariaat voor de Media) is authorized to enforce compliance with the DMA.

In addition to complying with industry specific regimes, we must comply with both specific and general legislation concerning, among other areas, competition, data protection, data retention, internet service provider liability, consumer protection, and e-commerce.

## European Union

The current body of EU law that deals with electronic communications regulation consists of a variety of legal instruments and policies (collectively referred to as the “**Regulatory Framework**”). The key elements of the Regulatory Framework are various legal measures, which we refer to as “Directives,” that require the EU Member States to harmonize their laws as well as certain EU regulations that have effect without any specific adoption at the national level. The main Directives within the Regulatory Framework are the so-called Framework Directive, Access Directive, Authorisation Directive, Universal Service Directive, and e-Privacy Directive. The main regulations are the Net Neutrality and Roaming Regulations.

The Regulatory Framework primarily seeks to create an internal market for electronic communication networks and services within the EU. It harmonizes the rules within the EU for the establishment and operation of electronic communications networks, and the offer of electronic communications services, such as telephony, internet and, to some degree, television services. The Regulatory Framework does not generally address issues of content.

On May 6, 2015, the European Commission (**EC**) published its Digital Single Market strategy document. The strategy is an aggregation of many different policy areas with the purpose of creating a digital single market to expand jobs and stimulate growth.

The strategy includes policy review in the areas of EU communications regulation, broadcasting law, copyright reform and anti-competitive geo-blocking practices.

On September 14, 2016 the EC published a proposal for the European Electronic Communications Code, which would replace the Regulatory Framework. The proposal recognizes the need for greater incentives to boost private sector investment in very high capacity networks. The proposal maintains the key elements of the Regulatory Framework, notably market analysis with remedies only being imposed on operators with Significant Market Power. The European Council and European Parliament are discussing other forms of access - extending the system of symmetrical access powers and the notion of joint Significant Market Power. The proposal captures all types of services that are relevant to consumers, not only the traditional electronic communications services as captured under the Regulatory Framework but also OTT services. The proposal brings greater harmonization to the timetables for spectrum licensing and renewal that will encourage investment in mobile networks and will result in more advanced services. Following the negotiations among the EC, European Council and European Parliament agreement was reached and the European Electronic Communications Code has entered into force on December 20, 2018. Member states have until December 21, 2020, to transpose the EECC into national law.

The operation of broadcasting networks and the distribution of broadcasting signals by a cable operator falls within the scope of the Regulatory Framework. The content related activities of a broadcaster are harmonized by other elements of EU law, in particular the Audiovisual Media Services Directive (**AVMS**). The AVMS, which was adopted on December 11, 2007, amended the EU's existing Television Without Frontiers Directive (**TVWF**). The AVMS has been implemented in the Netherlands through the DMA. Under the AVMS, broadcasts originating in and intended for reception within an EU Member State must generally respect the laws of that Member State. Pursuant to both the AVMS and TVWF, and in accordance with what is referred to as the "country of origin principle", an EU Member State must furthermore allow within its territory the free transmission of broadcast signals of a broadcaster established in another EU Member State so long as such broadcaster complies with the laws of its home state. The AVMS also establishes quotas for the transmission of European produced programming and programs made by European producers who are independent of broadcasters.

## **The Netherlands**

The DTA comprises a wide variety of rights and obligations relevant to the provision of public electronic communications networks and services. Certain key provisions included in the DTA are described below, but this description is not intended to be a comprehensive description of all regulations in this area.

### ***Licensing***

The DTA contains a system of general authorizations. A provider of a public electronic communications network or service needs to notify the ACM of its network or service, who will register the notification. The purpose of the notification is to increase transparency and to ensure effective regulation and does not constitute a formal condition for market entry.

With regard to scarce resources such as telephone numbers and frequencies, a system of (individual) licenses applies. The ACM administers licenses with regard to telephone numbers. AT administers the frequency spectrum and grants licenses with regard to the use of frequencies. Licenses for frequencies are issued upon application, either on a first-come-first-serve basis, beauty contest or auction. A frequency license confers the right to use a specific set of frequencies in a specific band for a specific period of time and under specific conditions, such as coverage obligations. Frequency licenses are transferable with permission from the Minister of Economic Affairs. In addition to one-off license fees, holders of licenses have to pay annual supervision costs, based on the amount of spectrum held. We hold licenses in the 800, 900, 1800, 2100, and 2600 MHz bands to provide 2G (GSM), 3G (UMTS) and 4G (LTE) communications in the Netherlands. With the exception of the licenses for the 2100 MHz band, our licenses will expire in 2030. The 3G license for the 2100 MHz will expire in 2020. The Dutch Government is planning to re-auction the 2100 MHz licenses in late 2019 or early 2020, as well as licenses for the 700 and 1400 MHz bands. As of December 31, 2018, we hold approximately 30% of the total mobile spectrum licenses in the Netherlands, which are used to deliver mobile services.

### ***Access, Interoperability and Interconnection***

All providers of public electronic communications networks or services who control access to end-users are obliged to enter into negotiations upon the request of a competitor to conclude an interoperability agreement. Interoperability refers to all measures, including network interconnection, which should be implemented to ensure end-to-end connections. If a provider does not comply with its obligation to enter into negotiations, the ACM, at the other party's request, can impose proportionate obligations on the provider in order to ensure end-to-end connectivity.

## *Significant Market Power*

To ensure that the telecommunications markets become genuinely competitive, the ACM can impose ex ante regulation by means of market analysis decisions on operators or service providers that have significant market power in a relevant market. Ex ante regulation means that the ACM sets behavioral rules beforehand with which providers with significant market power must comply. A company will be deemed to have significant market power if, either individually or jointly with others, it enjoys a market position equivalent to dominance, i.e., a position of economic strength affording it the power to behave to an appreciable extent independently of competitors, customers, and ultimately consumers.

Before it can be established whether an operator or service provider has significant market power, the ACM needs to determine, in accordance with the principles of general European competition law, in which relevant electronic communications market(s) the operator or service provider competes. The ACM must do this while taking into account the EC's "Recommendation on relevant product and service markets within the electronic communications sector", the latest version of which was published by the EC on October 9, 2014. The ACM may also define additional relevant markets provided that any such market meets the cumulative criteria defined by the EC in its so called three criteria test for determining whether a market is susceptible to ex ante regulation.

If the ACM determines that a company has significant market power, the ACM must impose one or more appropriate obligations. These obligations relate to, among other things, access and use of specific network facilities, non-discrimination, transparency, and price regulation at both the wholesale and retail level. To ensure a proper functioning of the market, these obligations may not be disproportionate. The investigation of a relevant market, the designation of parties with significant market power and the imposition of ex ante obligations culminate in so-called market analysis decisions of the ACM. These decisions normally apply for a period of three years, after which the market concerned needs to be re-investigated.

The ACM has completed various rounds of market analyses. Old Ziggo was designated as a party with significant market power on the market for fixed terminating access services and Vodafone NL was designated as a party with significant market power for both the fixed terminating and mobile terminating access markets. In the recent Local Loop Unbundling decision, see *ACM Local Loop Unbundling Decision* below, KPN and VodafoneZiggo are designated as parties with Joint Significant Market Power.

The analyses in respect of these markets are discussed below.

## *ACM Call Termination Market Analysis Decisions*

In respect of the call termination market, the ACM has taken the view that all providers of call termination on fixed-line and mobile networks in the Netherlands have significant market power because all such providers exclusively control access to end-users connected to their respective public telephone networks. As a result, Old Ziggo (in relation to fixed call termination services) and Vodafone NL (in relation to both fixed and mobile call termination services), have been subject to specific ex ante obligations, including in particular tariff regulation (maximum termination charges), since the ACM's third market analysis decision of July 7, 2010. On August 5, 2013, the ACM published its fourth market analysis decision on call termination, which combined both the fixed termination market and the mobile termination market. The new tariffs became effective September 1, 2013, and applied for a three year period that ended September 1, 2016. The decision was appealed by various operators, including us, and on August 27, 2013, the Dutch Supreme Administrative Court decided in a preliminary decision that the price cap on mobile termination charges should be higher than the ACM had initially determined. The court ruled that the ACM should apply a so-called Bottom-up Long Run Incremental Cost (**BULRIC**) plus cost calculation method (taking into account common overhead costs relating also to other services than mobile call termination, (**BULRIC plus**)) rather than a pure BULRIC method (in which such common overhead costs are to be disregarded, **pure BULRIC**). These revised tariffs applied until the Dutch Supreme Administrative Court arrived at a final decision in the appeal proceedings on the merits (see below). Because the pure BULRIC method used by the ACM is in fact a method recommended by the EC in its 2009 Recommendation on the Regulatory Treatment of Termination Rates, the Supreme Administrative Court posed prejudicial questions to the European Court of Justice.

After an Advocate General opinion, the European Court of Justice ruled on September 15, 2016, that deviation from the EC's 2009 Recommendation on Termination Rates is only possible if justified by national circumstances. The ACM started a new (the fifth) market analysis and published a draft decision on November 18, 2016, in which they again regulate using a pure BULRIC calculation. The hearing at the Dutch Supreme Administrative Court was held on January 11, 2017, and ruling given on July 10, 2017, upheld the ACM's use of pure BULRIC, though not requesting retroactive adjustment.

In April 2017, the ACM provided their plan to impose tariff ceilings of €0.00139 per minute for fixed and €0.005819 cents per minute for mobile calls from July 1, 2017, to the EC. The EC approved these in May, 2017. The new tariff implementation

was delayed by the court decision, until July 12, 2017, and will apply until July 12, 2020. VodafoneZiggo appealed ACM's market decision. In September 2018, the appeal court delivered its decision on VodafoneZiggo's appeal against the ACM's Mobile Termination/ Fixed-line Termination Rate (**MTR** and **FTR**) regulations market decision. The verdict provides the relevant guidance sought by VodafoneZiggo about the interpretation and setting of interconnection tariffs among operators.

### ***ACM Local Loop Unbundling Decision***

On February 27, 2018, the ACM published a draft decision in its Local Loop Unbundling market analysis, now referred to as Wholesale Fixed Access (**WFA**) in which it aims to regulate VodafoneZiggo by imposing an obligation to offer wholesale cable access in addition to continuing existing regulation on KPN. Following a market consultation, the ACM notified the draft decision to the EC. On August 31, 2018, the EC responded, making a number of critical comments, but not rejecting the ACM's proposals (no serious doubts). The ACM then published a final decision on September 28, 2018, which entered into force October 1, 2018. We have appealed both the EC's letter and ACM's decision. In the latter case, we expect a verdict before the end of 2019. A first obligation on VodafoneZiggo to publish a reference offer for January 1, 2019, has been complied with. VodafoneZiggo only has to invest in the implementation of cable access if there is actual demand (i.e., a signed contract with an access seeker). We do not expect cable access to be available before January 1, 2020. The actual financial impact on our business is not known yet.

### ***Acquisition of Tele2 Netherlands by T-Mobile Netherlands***

On November 27, 2018, the EC approved, under the EU Merger Regulation, the proposed acquisition of Tele2 Netherlands by T-Mobile Netherlands, the third and fourth players in the Dutch mobile market. The decision follows an in-depth investigation by the EC. The merger took effect on January 2, 2019. The combined entity remains the third largest player in the Dutch market after KPN and VodafoneZiggo.

### ***Network and services security and continuity***

As a provider of public electronic communication networks and services, we are subject to specific obligations to safeguard the security and integrity of our networks and services, and to ensure the continuity of electronic communications services in the event of disturbances or outages of the electricity grid. We are also required to notify the AT and the National Cyber Security Center ("**NCSC**") of security and integrity breaches which materially threaten the continuity of our networks and services. To mitigate the risks to continuity of mobile services, Vodafone NL, T-Mobile, and KPN voluntarily entered into national roaming arrangements in 2014, allowing for their respective subscribers to roam (voice and SMS) on the other parties' networks in the event of severe outages.

### ***End-user Protection***

As a provider of public electronic communication networks and services, we are subject to specific regulations aiming to protect end-users, including regulations concerning information obligations toward consumers, the enactment of amendments to end-user contracts, the term of end user contracts, termination rights of consumers, quality reporting, access to emergency numbers and subscriber information, and compensation of subscriber fees in the event of outages. Access to emergency numbers has to be provided without limitation and free of charge. Access to subscriber information includes the provision of access to the names, addresses and telephone numbers of our subscribers who have consented to be included in directory enquiry services.

### ***Data Protection***

For providers of public electronic communications networks or services and further to the European Data Protection Directive and the ePrivacy Directive, a strict data protection regime applies in the Netherlands. In addition to the general data protection framework of the Data Protection Act (Wet bescherming persoonsgegevens), the DTA sets out specific regulations for providers of public electronic communications networks and services. These regulations include an obligation to offer certain technical facilities, such as specification of invoices, telephone number identification and transfer of calls, rules regarding the use and processing of location data and traffic data (i.e., call detail records), an obligation to provide access to subscriber lists for directory services, obligations to implement security measures to protect personal data and rules regarding unsolicited commercial communications ("spam"). The DTA also obliges providers of public electronic communications networks to notify the ACM in case of a security breach which includes the leakage of personal data processed by the provider. In certain circumstances, data subjects involved will need to be informed as well. Non-compliance with the DTA can lead to a fine.

On May 25, 2018, the EU General Data Protection Regulation (**GDPR**), that replaces the European Data Protection Directive, came into force. The GDPR has direct effect in the Netherlands with additional data protection obligations relevant to our operations

that include: (i) clear explanation and transparency of personal data usage to customers and employees, and maintaining an internal data processing register, (ii) affirmative consent from users for profiling by automated means, (iii) stronger privacy rights for users, and (iv) application of privacy by design/default to data processes.

In the course of 2019, it is expected that a new ePrivacy Regulation will replace the ePrivacy Directive and supervision will shift from the ACM to the Dutch Data Protection Authority ('Autoriteit Persoonsgegevens').

### ***Lawful Interception***

Providers of public telecommunication networks and services can only make their networks and services available to the public if they have arranged their networks and services in such a manner that they can be lawfully intercepted promptly. Providers of public telecommunication networks and services are obligated to cooperate fully in the execution of a lawfully given special tapping order or permission, in accordance with the technical and procedural requirements set forth on the basis of the DTA, and to provide relevant Dutch law enforcement agencies information on subscribers and telecommunications traffic.

### ***Net Neutrality***

On January 1, 2013, certain provisions in the DTA with respect to net neutrality entered into force. These provisions regulate net neutrality by, among other things, prohibiting operators of public telecommunication networks through which internet access is provided as well as internet service providers from blocking or restricting services or applications which are accessed via the internet other than in circumstances set forth in the DTA. In October 2015, the European Parliament adopted a new Regulation including the first EU-wide net neutrality regime. Following a lengthy legislative procedure, the regulation (directly applicable in all Member States from April 30, 2016) reflects a light-handed approach to net neutrality permitting the provision of specialized services optimized for specific content and approving reasonable traffic management. In October 2016, a bill to change the DTA pursuant to the EU net neutrality Regulation was adopted by the Dutch Senate. In the law, a specific obligation prohibiting tariff differentiation for data was maintained, which however did not follow from the Regulation. The Court in Rotterdam ruled on April 20, 2017, that the Dutch ban on differential pricing for data is not valid as the EU net neutrality regulation does not allow national regulation on this issue. As a result, the DTA was amended to reflect the EU regulation. The special interest group Bits of Freedom has brought a series of legal challenges aimed at prohibiting zero rating. The administrative court is expected to issue a ruling during 2019.

### ***Radio and Television Transmission***

The distribution of must-carry television services to the public is regulated by the DMA, entailing obligations regarding the transmission of specified radio and television broadcast channels. On January 1, 2014, revised must carry obligations became effective. The revised must carry obligations do not only apply to cable operators, as was previously the case, but also apply to all providers of analog and digital program packages based on the principle of technology neutrality. Providers of digital program packages with 100,000 or more subscribers are subject to the obligation to provide at least 30 television channels, including six public television broadcasting channels as a must carry obligation, a limited amount of regional and local television broadcasting channels and a number of digital radio broadcasting channels. In addition, all providers of analog program packages with 100,000 or more subscribers must include at least 15 television channels, including five public broadcasting channels as a must carry obligation, a limited amount of regional and local television broadcasting channels and some analog radio broadcasting channels. The DMA can grant a (conditional) exemption from the obligation if the must carry obligations listed above give rise to disproportionate costs for the network operator, an impediment to innovation or other unreasonable outcomes.

There is no regulated financing mechanism in place between network operators and broadcasters. Commercial and public program providers must negotiate with network operators regarding transmission fees.

### ***Property Rules regarding the Network***

In accordance with the Dutch Civil Code, all public fixed-line electronic communication networks are the legal property of the rightful constructor of the network or its legal successor, and not (by accession) of the owner of the ground in which the network resides. Registration at the Land Registry (*het Kadaster*) is required for the transfer of legal ownership and/or to encumber public networks, for example by a right of mortgage. Registration is also required to enjoy statutory protection against title claims of third parties. We have currently registered a substantial majority of our HCF network at the Land Registry.

## ***Roaming***

As a result of the European Roaming Regulation, which has direct effect in the Netherlands, as of June 15, 2017, roaming retail surcharges are no longer permitted, subject to a fair use policy. On June 15, 2017, revised maximum wholesale roaming rates (exclusive of VAT) became effective as follows (i) outgoing calls at €0.032 per minute, (ii) incoming calls at €0.0114 per minute, (iii) €0.01 per SMS sent, and (iv) rates for data at €7.7 per GB decreasing annually ultimately to €2.5 per GB effective January 1, 2022.

## ***International calls***

New rules regarding intra EU communications impose regulated maximum retail prices charged to consumers of €0.19 per minute for calls and €0.06 per SMS messages (exclusive of VAT). The rates apply to fixed and mobile communications and will enter into force on May 15, 2019, and remain in place for five years.

## ***Consumer Credit***

In June 2014, and February 2016, the Dutch (Civil) Supreme Court ruled that certain combined propositions of mobile services and a mobile handset could, under circumstances, be qualified as, inter alia, consumer credit and installment sales, which qualification could have consequences on the validity of certain customer contracts and the applicability of financial laws including the supervision of the Autoriteit Financiële Markten (the Dutch financial market supervisory body, “AFM”). Vodafone NL was not party to the above-mentioned proceedings.

Currently, we are unable to conclude if, and if so, which, mobile subscriptions of Vodafone NL would be impacted by these rulings. In February 2018, the Dutch Consumer Federation made public that they had commenced collective proceedings against Vodafone NL and other mobile operators in the Netherlands and we are currently conducting exploratory talks with the Dutch Consumer Federation and the commercial claim vehicle Consumentenclaim B.V.

Furthermore, Vodafone NL has been in close consultation with the Financial Market Authority about the applicability and implementation of financial laws on consumer credit going forward and applied for a consumer credit license with the AFM in June 2016. The license was granted in December 2016.

## ***Conditions Applied in Connection with the Ziggo Acquisition and KPN appeals against EC merger decisions for Ziggo Acquisition and VodafoneZiggo Joint Venture***

Liberty Global’s acquisition of Ziggo obtained regulatory clearance from the EC on October 10, 2014, subject to the following commitments from Old Ziggo that are transferred to our company:

- a commitment to carry *Film 1* channels on our network at least until October 2017; and
- a commitment until October 10, 2022, with respect to our fixed network (i) not to enforce certain clauses currently contained in carriage agreements with broadcasters that restrict the ability of broadcasters to offer their channels and content via OTT services, (ii) not to enter into carriage agreements containing such clauses, and (iii) to maintain adequate interconnection capacity through at least three uncongested routes into our network, at least one of which must be with a large transit provider.

In July 2015, KPN, one of our competitors in the Netherlands, lodged an appeal against the EC decision clearing the acquisition of the Ziggo business by Liberty Global. The VodafoneZiggo JV was not a party to these proceedings. On October 26, 2017, the General Court of the EU ruled that the EC did not state sufficient reasons for not analyzing the possible vertical anti-competitive effects on the market for premium pay TV sports channels and consequently annulled the EC decision. Article 10 (5) of the Merger Regulation provides in such a case that transaction shall be re-examined by the EC with a view to adopting a new decision. In April 2018, we filed a formal re-notification of this merger with the EC. On May 30, 2018, the EC again cleared the acquisition of the Ziggo business by Liberty Global. The earlier agreed commitments from Old Ziggo that were transferred to our company, have been extended to May 2026. On November 22, 2018, KPN lodged a pro-forma appeal with the General Court of the EU against the May 30, 2018, clearance decision of the EC. On February 15, 2019, we have, together with our shareholders, filed a request to intervene in these proceedings with the General Court.

On June 12, 2017, KPN lodged an appeal with the General Court of the EU against the EC's 2016 decision to clear the VodafoneZiggo JV between Vodafone and Liberty Global in the Netherlands. This appeal, which is still pending, can be seen as a strategic follow up to KPN's first appeal against the acquisition of Ziggo by Liberty Global.

### ***Other***

On April 10, 2018, the EC carried out inspections at several media companies in Europe including our sports channel, Ziggo Sport. The investigation is currently ongoing. To date, Ziggo Sport has not received a Statement of Objections, setting out the EC's possible concerns.

### **Legal Proceedings**

From time to time, we may become involved in litigation relating to claims arising out of our operations in the normal course of business. We believe the ultimate resolution of any of these existing contingencies would not likely have a material adverse effect on our business, results of operations, financial condition or liquidity.

### **Employees**

As of December 31, 2018, we, including our consolidated subsidiaries, have an aggregate of approximately 6,300 full-time equivalent employees, certain of whom belong to organized unions and works councils. Certain of our subsidiaries also use contract and temporary employees, which are not included in this number, for various projects. We believe that our employee relations are good.

## **MANAGEMENT AND GOVERNANCE**

### ***Management and Supervisory Directors***

VodafoneZiggo is managed by its Managing Directors. The Managing Directors are responsible for the day-to-day management of the business and, among other things, the overall supervision and administration of the business activities, the appointment and removal of executive officers, and the review of financial statements for VodafoneZiggo and its affiliates. Responsibilities for operations are delegated to members of senior management.

The Managing Directors of VodafoneZiggo consists of Jeroen Hoencamp as CEO and Ritchy Drost as CFO.

**Jeroen Hoencamp** was appointed CEO of Vodafone NL on September 1, 2016. A Dutch citizen, he led Vodafone's U.K. business as Chief Executive from September 2013 to September 2016 and was previously Chief Executive of Vodafone Ireland. Before that, he spent 12 years in a number of senior executive roles (including Sales Director and Enterprise Business Unit Director) with Vodafone NL. Earlier in his career he worked in senior marketing and sales positions with Canon Southern Copy Machines, Inc. in the U.S. and Thorn EMI/Skala Home Electronics in the Netherlands. He is a former officer in the Royal Dutch Marine Corps.

**Ritchy Drost** was appointed CFO and member of the Management Board of Ziggo Group Holding, in September 2015. Ritchy Drost was appointed CFO, European Broadband Operations, of Liberty Global in January 2012. Mr. Drost served as Managing Director and CFO of Ziggo Services and its predecessors, from January 2006 to January 2012. Prior to that, he held various management positions after joining a predecessor of Liberty Global Europe in November 1999. Previously he was with Arthur Andersen LLP in their assurance practice.

The business address of each of the Managing Directors named above is Boven Vredenburgpassage 128, 3511 WR Utrecht, the Netherlands. There are no potential conflicts of interest between the duties of the Managing Directors noted above towards VodafoneZiggo and his or her personal interests and duties.

The Supervisory Board of VodafoneZiggo consists of three representatives from each of Liberty Global (currently Diederik Karsten, Baptiste Coopmans, Charlie Bracken), and Vodafone (currently John Otty, Margherita Della Valle, Serpil Timuray), and two members nominated by the former Works Councils of Vodafone (currently Carla Mahieu) and Ziggo (currently Huub Willems). The composition of the Supervisory Board changed during 2018: (i) on June 29, 2018, Nick Read and Warren Finegold resigned as Supervisory Directors and John Otty and Margherita Della Valle were appointed as their successors; and (ii) on December 31, 2018, Ahmed Essam resigned as Supervisory Director and Serpil Timuray was appointed as his successor. Certain matters will

require approval of both companies' representatives. The post of Chairman will be held for alternating 12 month periods by a Liberty Global or Vodafone appointed director, currently Diederik Karsten (Ahmed Essam until December 31, 2018).

### **PRINCIPAL SHAREHOLDERS**

VodafoneZiggo is wholly-owned by VodafoneZiggo Group Holding. VodafoneZiggo Group Holding is a 50:50 joint venture among Liberty Global and Vodafone.

Liberty Global is the world's largest international TV and broadband company, with operations in 10 European countries under the consumer brands Virgin Media, Unitymedia, Telenet, and UPC. Liberty Global develops market-leading products delivered through next-generation networks that connect 21 million customers subscribing to 45 million TV, broadband internet, and telephony services. Liberty Global also serve 6 million mobile subscribers and offer WiFi service through 12 million access points across its footprint (includes both the continuing and discontinued operations as of December 31, 2018). In addition, Liberty Global owns significant investments in ITV, All3Media, ITI Neovision, Casa Systems, LionsGate, the Formula E racing series, and several regional sports networks.

Vodafone Group has mobile operations in 25 countries, partners with mobile networks in 46 more, and fixed broadband operations in 18 markets. As of December 31, 2018, Vodafone Group had approximately 700 million mobile customers and 21 million fixed broadband customers, including all of the customers in Vodafone's joint ventures and associates.

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

The following discussion and analysis, which should be read in conjunction with our consolidated financial statements, is intended to assist in providing an understanding of our results of operations and financial condition and is organized as follows:

- *Overview.* This section provides a general description of our business and recent events.
- *Results of Operations.* This section provides an analysis of our results of operations for the years ended December 31, 2018, 2017, and 2016.
- *Material Changes in Financial Condition.* This section provides an analysis of our corporate and subsidiary liquidity, consolidated statements of cash flows and contractual commitments.
- *Critical Accounting Policies, Judgments, and Estimates.* This section discusses those material accounting policies that involve uncertainties and require significant judgment in their application.

The capitalized terms used below have been defined in the notes to our consolidated financial statements. In the following text, the terms “we,” “our,” “our company,” and “us” may refer, as the context requires, to VodafoneZiggo (or its predecessor, herein referred to as “**Old Ziggo**”) or collectively to VodafoneZiggo (or its predecessor) and its subsidiaries after giving effect to the JV Transaction and the common control transfer as described in note 1 to our consolidated financial statements.

Unless otherwise indicated, convenience translations into euros are calculated, and operational data (including subscriber statistics) is presented, as of December 31, 2018.

### Overview

#### *General*

VodafoneZiggo is a provider of video, broadband internet, fixed-line telephony, and mobile services to residential and business customers in the Netherlands. Prior to the closing of the JV Transaction, VodafoneZiggo was a wholly-owned subsidiary of Liberty Global. On December 31, 2016, and upon closing the JV Transaction, VodafoneZiggo became a wholly-owned subsidiary of VodafoneZiggo Group Holding. VodafoneZiggo Group Holding is a 50:50 joint venture between Vodafone and Liberty Global. In connection with closing of the JV Transaction, Vodafone NL became an indirect wholly-owned subsidiary of VodafoneZiggo. Vodafone NL and its subsidiaries operated Vodafone’s mobile business in the Netherlands. For additional information regarding the JV Transaction and the formation of the VodafoneZiggo JV, see note 5 to our consolidated financial statements.

As a result of the JV Transaction and the formation of the VodafoneZiggo JV, we have a new basis of accounting effective December 31, 2016. In our consolidated financial statements, (i) the consolidated balance sheets as of December 31, 2018 and 2017, and consolidated statements of operations, owner’s equity, and cash flows for the years ended December 31, 2018 and 2017 are labeled “**Successor**” and reflect the push down of the VodafoneZiggo JV’s basis of accounting, and (ii) the consolidated statements of operations and cash flows for the year ended December 31, 2016 are labeled “**Predecessor**” and reflect the historical accounting basis in the assets and liabilities of Old Ziggo.

#### *Operations*

At December 31, 2018, we owned and operated networks that passed 7,199,000 homes and served 9,719,500 Revenue Generating Units (**RGUs**), consisting of 3,902,700 video subscribers (including 3,385,000 enhanced video subscribers), 3,317,200 broadband internet subscribers and 2,499,600 fixed-line telephony subscribers. In addition, at December 31, 2018, we served 4,966,000 mobile subscribers, which includes 4,215,000 postpaid subscribers.

The following table provides details of our organic RGU and mobile subscriber changes for the years indicated. Organic RGU and mobile subscriber changes exclude the effect of acquisitions (RGUs and mobile subscribers added on the acquisition date) and other non-organic adjustments, but includes post-acquisition date RGU and mobile subscriber additions or losses.

	Year ended December 31,		
	2018	2017	2016 (a) pro forma
Organic RGU additions (losses):			
Video:			
Basic	(58,700)	(82,800)	(98,800)
Enhanced	18,900	27,300	(14,100)
Total video	(39,800)	(55,500)	(112,900)
Broadband internet	50,600	67,300	87,100
Fixed-line telephony	(51,800)	15,100	(2,000)
Total organic RGU additions (losses)	<u>(41,000)</u>	<u>26,900</u>	<u>(27,800)</u>
Organic mobile subscriber additions (losses):			
Postpaid net additions	156,900	21,900	21,100
Prepaid net losses	(78,900)	(236,000)	(122,200)
Total organic mobile subscriber additions (losses)	<u>78,000</u>	<u>(214,100)</u>	<u>(101,100)</u>

- (a) The subscriber information for 2016 is presented on a pro forma basis that gives effect to the JV Transaction as if it had been completed as of January 1, 2016. These pro forma amounts are not necessarily indicative of the subscriber results that would have occurred if the JV Transaction had occurred on such date.

*Video services.* For most of our customers, we have enhanced our video offerings with various products that enable such customers to control when they watch their programming. These products range from digital video recorders to multimedia home gateway systems capable of distributing video, voice, and data content throughout the home and to multiple devices.

*Broadband internet services.* Subscribers to our residential broadband internet services generally access the internet at various download speeds of up to 400 Mbps, depending on network capability and the tier of service selected. We determine pricing for each tier of broadband internet service through analysis of speed, market conditions and other factors. We continue to invest in new technologies that allow us to increase the internet speeds we offer to our customers.

*Fixed-line telephony services.* We offer fixed-line telephony services to all of our broadband communications subscribers, primarily using VoIP technology.

*Mobile services.* Following the closing of the JV Transaction, we offer mobile services as a mobile network operator.

*B2B services.* We provide B2B services, including voice, broadband internet, data, video, wireless, and cloud services.

For additional information regarding the details of our products and services, see the “*Business of VodafoneZiggo*” section in this annual report.

### ***Strategy and management focus***

We believe we are able to add value to our customers through each and every connection related to our video, broadband internet, fixed-line telephony and mobile services. We enable our customers to connect with their loved ones and build new meaningful relationships and enjoy fantastic content and entertainment in familiar and refreshing ways thereby creating more satisfying experiences for our customers.

The formation of the VodafoneZiggo JV, of which we are a wholly-owned subsidiary, created a national, fully converged organization in the Netherlands and, as such, we believe we are able to better serve our customers and compete with our key competitors. As a converged company, we expect we will be able to create growth opportunities, including quad-play, and cross-selling and upselling opportunities. We expect that we will improve customer satisfaction and loyalty to our company and the services we provide. Furthermore, we expect to leverage the knowledge and expertise of our ultimate parent companies, Liberty Global and Vodafone, as well as realize synergies as we begin integrating and operating as one converged company.

From a strategic perspective, we are seeking to build broadband communications and mobile business that has strong prospects for future growth.

We strive to achieve organic revenue and customer growth in our operations by developing and marketing bundled entertainment and information and communications services, and extending and upgrading the quality of our networks where appropriate. While we seek to obtain new customers, we also seek to maximize the average revenue we receive from each household by increasing the penetration of our digital cable, broadband internet, fixed-line telephony and mobile services with existing customers through product bundling and upselling towards a converged product offering.

### ***Competition and Other External Factors***

We are experiencing significant competition from an incumbent telecommunications operator and/or other providers. This significant competition, together with the macroeconomic factors, has adversely impacted our revenue, RGU and average monthly subscription revenue per average cable RGU or mobile subscriber, as applicable (**ARPU**). For additional information regarding the revenue impact of changes in the RGU and ARPU, see *Results of Operations* below.

Our mobile and fixed-line operations are experiencing significant competition. In particular, our mobile operations continue to experience pressure on pricing, characterized by aggressive promotion campaigns, heavy marketing spend and increasing or unlimited data bundles. Furthermore, there is increasing competition from MVNOs that focus on certain niche segments such as no frill, youth or ethnic markets.

On November 27, 2018, the European Commission (**EC**) approved the merger of Tele2 Netherlands and T-Mobile Netherlands without conditions.

Effective June 15, 2017, consumers are able to use their mobile device when traveling in the European Union (**EU**), paying the same prices as at home (i.e. to "Roam like at Home."). Any voice call or SMS and data session made while traveling abroad in the EU will be deducted from the monthly package of minutes, SMS and data in the home country with no extra charges. As a result of this change, our revenues from intra-EU roaming have declined.

Further, in May 2017 the EC approved certain tariff ceilings of €0.00139 per minute for fixed and €0.005819 per minute for mobile calls effective July 12, 2017. As a result of these Mobile Termination/ Fixed-line Termination Rate (**MTR** and **FTR**) regulations, our fixed-line and mobile interconnect revenue has declined.

Effective May 15, 2019, the retail prices for intra EU calls and SMS messages charged to consumers will be regulated at a maximum of €0.19 per minute for calls and €0.06 per SMS message (excluding VAT).

In addition to competition, our operations are subject to macroeconomic, political, and other risks that are outside of our control. For example, on June 23, 2016, the United Kingdom (**U.K.**) held a referendum in which U.K. citizens voted in favor of, on an advisory basis, an exit from the EU, commonly referred to as "**Brexit**." Failing the implementation of an agreed extension, the U.K. will leave the EU on March 29, 2019 under a so-called "hard Brexit" or "no-deal Brexit" without agreements on trade, finance and other key elements. The foregoing has caused considerable uncertainty as to Brexit's impact on the free movement of goods, services, people, data, and capital between the U.K. and the EU, customer behavior, economic conditions, interest rates, currency exchange rates, and availability of capital. The effects of Brexit could adversely affect our business, results of operations, financial condition, and liquidity.

### **Results of Operations**

As described in note 2 to our consolidated financial statements, we adopted ASU 2014-09 on January 1, 2018 using the cumulative effect transition method. As such, the information included in our consolidated financial statements and notes thereto for 2017 and 2016 has not been restated and continues to be reported under the accounting standards in effect for such years. In

order to provide a more meaningful comparison of our results of operations, in the following discussion and analysis of our results of operations for 2018, as compared to 2017, we present our revenue, expenses, and OCF (as defined below) for 2017 on a pro forma basis that gives effect to the adoption of ASU 2014-09 as if such adoption had occurred on January 1, 2017. However, in the discussion and analysis of our results of operations for 2017, as compared to 2016, we present all amounts for 2017 on a historical basis and all amounts for 2016 on a pro forma basis as if the JV Transaction had been completed on January 1, 2016.

The following table presents (i) the impact of the adoption of ASU 2014-09 on our revenue categories and OCF for the year ended December 31, 2018, and (ii) the pro forma impact of the adoption of ASU 2014-09 on our revenue categories and OCF for the year ended December 31, 2017, as if the adoption of ASU 2014-09 had occurred on January 1, 2017.

	Year ended	
	December 31,	
	2018	2017 (a)
	in millions	
Consumer cable revenue:		
Subscription revenue	€ (94.8)	€ (36.2)
Non-subscription revenue	(2.4)	(3.8)
Total consumer cable revenue	(97.2)	(40.0)
Consumer mobile revenue:		
Service revenue	(50.7)	(104.0)
Non-service revenue	98.3	114.8
Total consumer mobile revenue	47.6	10.8
B2B cable revenue:		
Subscription revenue	(2.6)	(0.8)
Non-subscription revenue	0.2	2.4
Total B2B cable revenue	(2.4)	1.6
B2B mobile revenue:		
Service revenue	(29.0)	(20.7)
Non-service revenue	24.1	27.5
Total B2B mobile revenue	(4.9)	6.8
Total revenue	€ (56.9)	€ (20.8)
OCF	€ (20.7)	€ 0.5

- (a) Amounts are presented on a pro forma basis that gives effect to the adoption of ASU 2014-09 as if such adoption had occurred on January 1, 2017.

#### *General*

Our revenue is earned in the Netherlands and is subject to applicable VAT. Any increases in these taxes could have an adverse impact on our ability to maintain or increase our revenue to the extent that we are unable to pass such tax increases onto our customers.

We pay interconnection fees to other telephony providers when calls or text messages from our subscribers terminate on another network, and we receive similar fees from such providers when calls or text messages from their customers terminate on our network. The amounts we charge and incur with respect to fixed-line telephony and mobile interconnection fees are subject to regulatory oversight. To the extent that regulatory authorities introduce fixed-line or mobile termination rate changes, we would experience prospective changes in our interconnect revenue and costs. The ultimate impact of any such changes in termination rates on our adjusted operating income before depreciation and amortization OCF would be dependent on the call or text messaging patterns that are subject to the changed termination rates. **OCF** is defined as operating income before depreciation and amortization, share-based compensation, provisions, and provision releases related to significant litigation and impairment, restructuring and other operating items. Other operating items include (i) gains and losses on the disposition of long-lived assets, (ii) third-party

costs directly associated with successful and unsuccessful acquisitions and dispositions, including legal, advisory and due diligence fees, as applicable, and (iii) other acquisition-related items, such as gains and losses on the settlement of contingent consideration.

We are subject to inflationary pressures with respect to certain costs and foreign currency exchange risk. Any cost increases that we are not able to pass on to our subscribers through rate increases would result in increased pressure on our operating margins.

### *Revenue*

We earn revenue from (i) subscribers to our consumer broadband communications and mobile services and (ii) B2B services, interconnect fees, channel carriage fees, installation fees, and late fees. Consistent with the presentation of our revenue categories in note 14 to our consolidated financial statements, we use the terms “subscription revenue” and “service revenue” in the following discussion to refer to amounts received from subscribers for ongoing services. In the tables below, mobile service revenue excludes the related interconnect revenue.

Variances in the subscription and/or service revenue from our customers are a function of (i) changes in the number of RGUs or mobile subscribers outstanding during the period and (ii) changes in ARPU. Changes in ARPU can be attributable to (a) changes in prices, (b) changes in bundling or promotional discounts, (c) changes in the tier of services selected, (d) variances in subscriber usage patterns, and (e) the overall mix of cable and mobile products during the period. In the following discussion, we provide the net impact of the above factors on the ARPU that is derived from our video, broadband internet, fixed-line telephony, and mobile products.

**2018 compared to 2017**

Historical results for the year ended December 31, 2018, as compared to the pro forma results for the year ended December 31, 2017, are set forth below:

	Year ended December 31,	
	2018	2017
	in millions	
	pro forma	
Revenue	€ 3,895.4	€ 3,974.5
Operating costs and expenses (exclusive of depreciation and amortization, shown separately below):		
Programming and other direct costs of services	858.4	874.4
Other operating	467.4	480.2
SG&A	643.6	689.5
Charges for JV Services	227.7	243.6
Depreciation and amortization	1,552.0	1,486.1
Impairment, restructuring and other operating items, net	35.7	7.6
	<u>3,784.8</u>	<u>3,781.4</u>
Operating income	110.6	193.1
Non-operating income (expense):		
Interest expense:		
Third-party	(473.1)	(463.0)
Related-party	(101.0)	(112.6)
Realized and unrealized gains (losses) on derivative instruments, net	295.8	(637.0)
Foreign currency transaction gains (losses), net	(232.5)	666.8
Gains on debt modification and extinguishment, net	—	15.2
Other income, net	4.3	16.5
	<u>(506.5)</u>	<u>(514.1)</u>
Loss before income taxes	(395.9)	(321.0)
Income tax benefit	318.4	91.7
Net loss	<u>€ (77.5)</u>	<u>€ (229.3)</u>

## Revenue

Our revenue by major category is set forth below:

	Year ended		Increase (decrease)	
	December 31,		€	%
	2018	2017	€	%
	in millions, except % amounts			
	pro forma			
Consumer cable revenue (a):				
Subscription revenue	€ 1,980.3	€ 2,006.6	€ (26.3)	(1.3)%
Non-subscription revenue	17.8	22.8	(5.0)	(21.9)%
Total consumer cable revenue	1,998.1	2,029.4	(31.3)	(1.5)%
Consumer mobile revenue (b):				
Service revenue	669.5	640.4	29.1	4.5 %
Non-service revenue	215.5	243.7	(28.2)	(11.6)%
Total consumer mobile revenue	885.0	884.1	0.9	0.1 %
Total consumer revenue	2,883.1	2,913.5	(30.4)	(1.0)%
B2B cable revenue (c):				
Subscription revenue	407.1	376.1	31.0	8.2 %
Non-subscription revenue	24.3	27.4	(3.1)	(11.3)%
Total B2B cable revenue	431.4	403.5	27.9	6.9 %
B2B mobile revenue (d):				
Service revenue	430.8	506.2	(75.4)	(14.9)%
Non-service revenue	100.0	105.0	(5.0)	(4.8)%
Total B2B mobile revenue	530.8	611.2	(80.4)	(13.2)%
Total B2B revenue	962.2	1,014.7	(52.5)	(5.2)%
Other revenue (e)	50.1	46.3	3.8	8.2 %
Total	€ 3,895.4	€ 3,974.5	€ (79.1)	(2.0)%

- (a) Consumer cable revenue is classified as either subscription revenue or non-subscription revenue. Consumer cable subscription revenue includes revenue from subscribers for ongoing broadband internet, video, and voice services offered to residential customers and the recognition of deferred installation revenue over the associated contract period. Consumer cable non-subscription revenue includes, among other items, channel carriage fees, late fees, and revenue from the sale of equipment. Subscription revenue from subscribers who purchase bundled services at a discounted rate is generally allocated proportionally to each service based on the stand-alone price for each individual service. As a result, changes in the stand-alone pricing of our cable and mobile products or the composition of bundles can contribute to changes in our product revenue categories from period to period.
- (b) Consumer mobile revenue is classified as either service revenue or non-service revenue. Consumer mobile service revenue includes revenue from ongoing mobile and data services offered under postpaid and prepaid arrangements to residential customers. Consumer mobile non-service revenue includes, among other items, interconnect revenue, mobile handset and accessories sales, and late fees.
- (c) B2B cable revenue is classified as either subscription revenue or non-subscription revenue. B2B cable subscription revenue includes revenue from business broadband internet, video, voice, and data services offered to small office/home office (SOHO, generally fewer than five employees) and small and medium to large enterprises. B2B cable non-subscription revenue includes, among other items, revenue from hosting services, carriage fees, and interconnect.

- (d) B2B mobile revenue is classified as either service revenue or non-service revenue. B2B mobile service revenue includes revenue from ongoing mobile and data services offered to SOHO, small, and medium to large enterprise customers. B2B mobile non-service revenue includes, among other items, interconnect revenue, mobile handset and accessories sales, and late fees.
- (e) Other revenue includes, among other items, programming and advertising revenue and revenue related to certain personnel services provided to Vodafone and Liberty Global.

The details of the pro forma decrease in our revenue during the year ended December 31, 2018, as compared to 2017, are set forth below:

	Subscription /Service revenue	Non- subscription /Non-service revenue	Total
	in millions		
Decrease in consumer cable subscription revenue due to change in:			
Average number of RGUs (a)	€ (10.5)	€ —	€ (10.5)
ARPU (b)	(15.8)	—	(15.8)
Decrease in consumer cable non-subscription revenue	—	(5.0)	(5.0)
Total decrease in consumer cable revenue	(26.3)	(5.0)	(31.3)
Increase (decrease) in consumer mobile revenue (c)	29.1	(28.2)	0.9
Increase (decrease) in B2B cable revenue (d)	31.0	(3.1)	27.9
Decrease in B2B mobile revenue (e)	(75.4)	(5.0)	(80.4)
Increase in other revenue	—	3.8	3.8
Total	€ (41.6)	€ (37.5)	€ (79.1)

- (a) The decrease in cable subscription revenue related to a change in the average number of RGUs is attributable to the net effect of (i) a decrease in the average number of basic video and fixed-line telephony RGUs and (ii) an increase in the average number of broadband internet and enhanced video RGUs.
- (b) The decrease in cable subscription revenue related to a change in ARPU is primarily attributable to net effect of (i) lower ARPU from broadband internet and fixed-line telephony services and (ii) a higher ARPU from video services.
- (c) The increase in mobile service revenue is primarily due to the net effect of (i) higher ARPU, including the impact of lower intra-EU roaming, which is primarily attributable to EU regulation that became effective on June 15, 2017, and (ii) an increase in the average number of mobile subscribers. The decrease in mobile non-service revenue is primarily due to lower interconnect revenue, which is primarily attributable to MTR regulation that became effective on July 12, 2017, and a decrease in handset sales. For additional information regarding changes in regulations related to EU and MTR charges, see *Overview “Competition and Other External Factors”* above.
- (d) The increase in B2B cable subscription revenue is due to an increase in the average number of RGUs across all our B2B products, which are primarily driven by ongoing demand of our successful business-oriented offers such as “Business Internet Pro” and integrated communication products, partially offset by a decline in ARPU.
- (e) The decrease in B2B mobile service revenue is primarily due to (i) adverse pricing trends associated with medium and large segments and with SOHO customers switching to consumer mobile plans, (ii) lower out-of-bundle revenue, and (iii) the impact of lower intra-EU roaming revenue and interconnect revenue related to the same regulation as mentioned in (c) above.

### *Programming and other direct costs of services*

*General.* Programming and other direct costs of services include programming and copyright costs, mobile access and interconnect costs, mobile handset and other equipment cost of goods sold, and other direct costs related to our operations. Programming and copyright costs, which represent a significant portion of our operating costs, are subject to increase in future periods as a result of (i) higher costs associated with the expansion of our digital video content, including rights associated with ancillary product offerings and rights that provide for the broadcast of live sporting events, and (ii) rate increases. In addition, we are subject to inflationary pressures with respect to our labor and other costs. Any cost increases that we are not able to pass on to our subscribers through rate increases would result in increased pressure on our operating margins.

Our programming and other direct costs of service decreased by €16.0 million or 1.8% during 2018, as compared to 2017. This decrease includes the following factors:

- A decrease in interconnect costs of €26.1 million or 12.7%, primarily due to lower MTR and FTR, partially offset by an increase in costs as a result of higher volume;
- An increase in programming and copyright costs of €6.4 million or 2.0%, mainly due to the net effect of (i) an increase resulting from the reassessment of certain programming and copyright accruals during 2017, (ii) higher costs for certain premium content, and (iii) a decrease as a result of contract renewals with more favorable terms; and
- An increase in equipment costs of €3.6 million or 1.0%, as the impact of lower sales volumes of mobile handsets and accessories was more than offset by an increase in the cost of sales of certain other equipment.

### *Other operating expenses*

*General.* Other operating expenses include network operations, customer operations, customer care, and other costs related to our operations.

Our other operating expenses decreased by €12.8 million or 2.7% during 2018, as compared to 2017. This decrease includes the following factors:

- A decrease in bad debt and collection expense of €11.8 million or 70.1%, primarily due to reassessment and recovery of bad debts provision;
- A decrease in customer services costs of €6.6 million or 8.1%, primarily due to a decrease in the number of customer service calls, partially offset by increased refurbishments costs;
- An increase in access costs of €6.5 million or 40.6%, primarily due to an increase in external technicians costs as a result of full digitalization in 2018;
- An increase in network and IT costs of €4.8 million or 4.7%, due to the net effect of (i) an increase in IT operational costs as a result lower capitalizable activities during 2018, (ii) an increase resulting from the impact of the release of certain IT projected related accruals during the third quarter of 2017, (iii) higher network rental costs, and (iv) a decrease in network maintenance costs; and
- A decrease in business services costs of €4.8 million or 10.3%, primarily due to a decrease in car fleet operating expenses, partially offset by increased consultancy costs.

### *SG&A expenses*

*General.* SG&A expenses include human resources, information technology, general services, management, finance, legal, external sales and marketing costs, share-based compensation, and other general expenses.

Our SG&A expenses decreased by €45.9 million or 6.7% during 2018, as compared to 2017. Our SG&A expenses include share-based compensation expense, which decreased €2.5 million. Excluding the effects of share-based compensation expense, our SG&A expenses decreased by €43.4 million or 6.3%. This decrease includes the following factors:

- A decrease in sales and marketing costs of €29.8 million or 12.3%, primarily driven by lower sales commissions and lower rebranding campaign expenses in 2018 as compared to 2017;
- A decrease in other costs of €8.5 million or 21.6%, primarily due to lower property costs and lower consumer credit costs;
- A decrease in personnel costs of €5.9 million or 2.2%, primarily due to a decrease in staffing levels as a result of restructuring relating to certain reorganization and integration activities, partially offset by a decrease in capitalization of labor cost in 2018;
- An increase in network and IT costs of €2.9 million or 9.0%, primarily due to a decrease in capitalized IT costs in 2018; and
- An increase in business services costs of €1.0 million or 1.3%, primarily due to an increase in consultancy and legal costs, partially offset by decrease in fleet costs and facility management costs.

#### *Charges for JV Services*

We recorded charges for JV Services of €227.7 million during 2018, as compared to €243.6 million during 2017. For additional information regarding charges for JV Services, see note 11 to our consolidated financial statements.

#### *Depreciation and amortization expense*

Our depreciation and amortization expenses increased by €65.9 million or 4.4% during 2018, respectively, as compared to 2017. This increase is primarily due to property and equipment additions related to the expansion and upgrade of our network and accelerated depreciation associated with the closure of office locations as a part of our integration efforts.

#### *Impairment, restructuring, and other operating items, net*

We recognized impairment, restructuring, and other operating items, net, of €35.7 million and €7.6 million during 2018 and 2017, respectively. The 2018 amount primarily relates to (i) restructuring charges of €36.5 million, (ii) a gain from disposal of assets of €3.9 million, and (iii) impairment charges related to tangible assets of €1.9 million. The 2017 amount relates to (i) restructuring charges of €10.8 million, (ii) a gain of €5.9 million related to the sale of tangible assets, and (iii) impairment charges related to tangible assets of €2.7 million.

Additional restructuring charges are expected for 2019, due to ongoing reorganization activities associated with the closing of the JV Transaction.

#### *Interest expense—third-party*

Our third-party interest expense increased by €10.1 million or 2.2% during 2018 as compared to 2017, due to higher average outstanding debt balances. For additional information regarding our third-party debt, see note 9 to our consolidated financial statements.

It is possible that the interest rates on (i) any new borrowings could be higher than the current interest rates on our existing indebtedness and (ii) our variable-rate indebtedness could increase in future periods. As further discussed in note 6 to our consolidated financial statements, we use derivative instruments to manage our interest rate risks.

In July 2017, the U.K. Financial Conduct Authority (the authority that regulates LIBOR) announced that it intends to stop compelling banks to submit rates for the calculation of LIBOR after 2021. Currently, it is not possible to predict the exact transitional arrangements for calculating applicable reference rates that may be used in the U.K., the U.S., the eurozone or elsewhere given that a number of outcomes are possible, including the cessation of the publication of one or more reference rates. Our loan documents contain provisions that contemplate alternative calculations of the base rate applicable to our LIBOR-indexed debt to the extent

LIBOR is not available, which alternative calculations we do not anticipate will be materially different from what would have been calculated under LIBOR. Additionally, no mandatory prepayment or redemption provisions would be triggered under our loan documents in the event that the LIBOR rate is not available. It is possible, however, that any new reference rate that applies to our LIBOR-indexed debt could be different from any new reference rate that applies to our LIBOR-indexed derivative instruments. We anticipate managing this difference and any resulting increased variable-rate exposure through modifications to our debt and/or derivative instruments, however future market conditions may not allow immediate implementation of desired modifications and/or the Company may incur significant associated costs.

*Interest expense–related-party*

Our related-party interest expense decreased by €11.6 million or 10.3% during 2018 as compared to 2017. This decrease is primarily due to lower average outstanding loan balances. For additional information regarding our related-party debt, see note 11 to our consolidated financial statements.

*Realized and unrealized gains (losses) on derivative instruments, net*

Our realized and unrealized gains or losses on derivative instruments include (i) unrealized changes in the fair values of our derivative instruments that are non-cash in nature until such time as the derivative contracts are fully or partially settled and (ii) realized gains or losses upon the full or partial settlement of the derivative contracts.

The details of our realized and unrealized gains (losses) on derivative instruments, net, are as follows:

	<b>Year ended</b>	
	<b>December 31,</b>	
	<b>2018</b>	<b>2017</b>
	<b>in millions</b>	
Cross-currency and interest rate derivative contracts (a)	€ 292.4	€ (635.5)
Foreign currency forward contracts	3.4	(1.5)
<b>Total</b>	<b>€ 295.8</b>	<b>€ (637.0)</b>

- (a) The gains (losses) are primarily attributable to the net effect of gains associated with a decrease in the value of the euro relative to the U.S. dollar. In addition, the gains (losses) include net gains of €0.5 million and €63.8 million during 2018 and 2017, respectively, resulting from changes in credit risk valuation adjustments.

For additional information regarding our derivative instruments, see notes 6 and 7 to our consolidated financial statements.

### *Foreign currency transaction gains (losses), net*

Our foreign currency transaction gains or losses primarily result from the remeasurement of monetary assets and liabilities that are denominated in currencies other than our functional currency. Unrealized foreign currency transaction gains or losses are computed based on period-end exchange rates and are non-cash in nature until such time as the amounts are settled. The details of our foreign currency transaction gains, net, are as follows:

	Year ended	
	December 31,	
	2018	2017
	in millions	
U.S. dollar-denominated debt	€ 232.5	€ 647.4
Restricted cash and cash denominated in a currency other than our functional currency	(0.4)	19.1
Other	0.4	0.3
Total	€ 232.5	€ 666.8

### *Gains on debt modification and extinguishment, net*

We recognized a gain on debt modification and extinguishment, net, of nil and €15.2 million during 2018 and 2017, respectively. The gain during 2017 is related to the write-off of (i) €21.6 million of unamortized premiums and (ii) €6.4 million of deferred financing costs.

### *Income tax benefit*

We recognized an income tax benefit of €318.4 million and €91.7 million during 2018 and 2017, respectively.

The income tax benefit recognized during 2018 differs from the expected income tax benefit of €98.9 million (based on the enacted Dutch income tax rate for 2018 of 25.0%), primarily due to the positive impact of (i) a reduction in the net deferred tax liabilities due to enacted changes in tax law during the fourth quarter of 2018, and (ii) tax benefits associated with technology innovation.

The income tax benefit during 2017 differs from the expected income tax benefit of €80.4 million (based on the Dutch income tax rate of 25.0%), primarily due to the positive impact of tax benefits associated with technology innovation.

For additional information regarding our income taxes, see note 10 to our consolidated financial statements.

### *Net loss*

During 2018 and 2017, we reported net losses of €77.5 million and €229.3 million, respectively, including (i) operating income of €110.6 million and €193.1 million, respectively, (ii) net non-operating expense of €506.5 million and €514.1 million, respectively, and (iii) income tax benefit of €318.4 million and €91.7 million, respectively.

Gains or losses associated with (i) changes in the fair values of derivative instruments, (ii) movements in foreign currency exchange rates, and (iii) the disposition of assets are subject to a high degree of volatility and, as such, any gains from these sources do not represent a reliable source of income. In the absence of significant gains in the future from these sources or from other non-operating items, our ability to achieve earnings from operations is largely dependent on our ability to increase our OCF to a level that more than offsets the aggregate amount of our (a) share-based compensation expense, (b) related-party fees pursuant to the JV Service Agreements, (c) depreciation and amortization, (d) impairment, restructuring and other operating items, net, (e) interest expense, (f) other net non-operating expenses, and (g) income tax expenses.

Subject to the limitations included in our various debt instruments, we expect to maintain our debt at current levels relative to our Covenant EBITDA, as defined and described in note 11. As a result, we expect that we will continue to report significant levels of interest expense for the foreseeable future. For information concerning our expectations with respect to trends that may affect our operating results in future periods, see the discussion under *Overview* above.

## 2017 compared to 2016

Historical results for the year ended December 31, 2017, as compared to the pro forma results for the year ended December 31, 2016, are set forth below:

	<b>Year ended December 31,</b>	
	<b>2017</b>	<b>2016</b>
	<b>in millions</b>	
	<b>pro forma</b>	
Revenue	€ 3,995.3	€ 4,146.6
Operating costs and expenses (exclusive of depreciation and amortization, shown separately below):		
Programming and other direct costs of services	874.4	924.3
Other operating	478.1	473.7
SG&A	712.9	715.5
Charges for JV Services	243.6	252.0
Depreciation and amortization	1,486.1	1,466.4
Impairment, restructuring and other operating items, net	7.6	13.7
	<u>3,826.5</u>	<u>3,845.6</u>
Operating income	<u>192.6</u>	<u>301.0</u>
Non-operating income (expense):		
Interest expense:		
Third-party	(463.0)	(456.1)
Related-party	(112.6)	(101.9)
Interest income	5.9	4.1
Realized and unrealized losses on derivative instruments, net	(637.0)	(134.2)
Foreign currency transaction gains (losses), net	666.8	(135.9)
Gains on debt modification and extinguishment, net	15.2	—
Other income (expense), net	10.6	(18.0)
	<u>(514.1)</u>	<u>(842.0)</u>
Loss before income taxes	<u>(321.5)</u>	<u>(541.0)</u>
Income tax benefit	91.7	163.8
Net loss	<u>€ (229.8)</u>	<u>€ (377.2)</u>

## Revenue

Our revenue by major category is set forth below:

	Year ended December 31,		Increase (decrease)	
	2017	2016 (a)	€	%
in millions, except % amounts pro forma				
Consumer cable revenue (b):				
Subscription revenue	€ 2,042.8	€ 2,089.6	€ (46.8)	(2.2)%
Non-subscription revenue	26.6	32.8	(6.2)	(18.9)%
Total consumer cable revenue	2,069.4	2,122.4	(53.0)	(2.5)%
Consumer mobile revenue (c):				
Service revenue	744.4	808.6	(64.2)	(7.9)%
Non-service revenue	128.9	137.9	(9.0)	(6.5)%
Total consumer mobile revenue	873.3	946.5	(73.2)	(7.7)%
B2B cable revenue (d):				
Subscription revenue	376.9	321.0	55.9	17.4 %
Non-subscription revenue	25.0	27.6	(2.6)	(9.4)%
Total B2B cable revenue	401.9	348.6	53.3	15.3 %
B2B mobile revenue (e):				
Service revenue	526.9	607.0	(80.1)	(13.2)%
Non-service revenue	77.5	82.4	(4.9)	(5.9)%
Total B2B mobile revenue	604.4	689.4	(85.0)	(12.3)%
Other revenue (f)	46.3	39.7	6.6	16.6 %
Total	€ 3,995.3	€ 4,146.6	€ (151.3)	(3.6)%

- (a) Effective April 1, 2017, we changed the categories that we present in this table in order to align with our internal reporting. These changes were retroactively reflected for all periods presented
- (b) Consumer cable revenue is classified as either subscription revenue or non-subscription revenue. Consumer cable subscription revenue includes revenue from subscribers for ongoing video, broadband internet, and voice services offered to residential customers. Consumer cable non-subscription revenue includes, among other items, installation and late fees and the sale of equipment. Subscription revenue from subscribers who purchase bundled services at a discounted rate is generally allocated proportionally to each service based on the standalone price for each individual service. As a result, changes in the standalone pricing of our cable and mobile products or the composition of bundles can contribute to changes in our product revenue categories from period to period.
- (c) Consumer mobile revenue is classified as either service revenue or non-service revenue. Consumer mobile service revenue includes revenue from ongoing mobile and data services offered under postpaid and prepaid arrangements to residential customers. Consumer mobile non-service revenue includes, among other items, interconnect revenue, mobile handset and accessories sales, activation fees, and late fees.
- (d) B2B cable revenue is classified as either subscription revenue or non-subscription revenue. B2B cable subscription revenue includes revenue from business broadband internet, video, voice, and data services offered to SOHO customers and medium to large enterprises. B2B cable non-subscription revenue includes, among other items, revenue from hosting services, installation fees, carriage fees, and interconnect revenue.

- (e) B2B mobile revenue is classified as either service revenue or non-service revenue. B2B mobile service revenue includes revenue from ongoing mobile and data services offered to SOHO and medium to large enterprise customers. B2B mobile non-service revenue includes, among other items, interconnect revenue, mobile handset and accessories sales, activation fees, and late fees.
- (f) Other revenue includes, among other items, programming and advertising revenue and revenue related to certain personnel services provided to Vodafone and Liberty Global.

The details of the decreases in our revenue during the year ended December 31, 2017, as compared to the corresponding period in 2016, are set forth below:

	<b>Pro forma</b>		
	<b>Subscription /Service revenue</b>	<b>Non- subscription / Non- service revenue</b>	<b>Total</b>
	<b>in millions</b>		
Pro forma increase (decrease) in consumer cable subscription revenue due to change in:			
Average number of RGUs (a)	€ (9.7)	€ —	€ (9.7)
ARPU (b)	(37.1)	—	(37.1)
Total decrease in consumer cable non-subscription revenue	<u>—</u>	<u>(6.2)</u>	<u>(6.2)</u>
Total pro forma decrease in cable revenue	(46.8)	(6.2)	(53.0)
Decrease in consumer mobile revenue (c)	(64.2)	(9.0)	(73.2)
Increase (decrease) in B2B cable revenue (d)	55.9	(2.6)	53.3
Decrease in B2B mobile revenue (e)	(80.1)	(4.9)	(85.0)
Increase in other revenue	—	6.6	6.6
<b>Total</b>	<u>€ (135.2)</u>	<u>€ (16.1)</u>	<u>€ (151.3)</u>

- (a) The decrease in consumer cable subscription revenue related to a change in the average number of RGUs attributable to the net effect of (i) decreases in the average number of basic video RGUs and (ii) increases in the average number of broadband internet and enhanced video RGUs.
- (b) The decrease in consumer cable subscription revenue related to a change in ARPU during the 2017 is attributable to the net effect of (i) lower ARPU from basic video services and fixed-line telephony services and (ii) higher ARPU from enhance video services and broadband internet services.
- (c) The decrease in consumer mobile service revenue is primarily due to the net effect of (i) lower ARPU, which includes the impact of lower intra-EU roaming revenue and growth in the number of customers under SIM-only (Subscriber Identification Module) contracts and (ii) increases in the average number of mobile subscribers. The reduction in intra-EU roaming revenue is primarily attributable to competitive pressures to reduce roaming charges in advance of changes in regulations which became effective on June 15, 2017. For additional information regarding changes in regulations related to roaming charges, see *Overview* above.
- (d) The increase in B2B cable subscription revenue is due to the net effects of (i) higher revenue from broadband internet services, mostly due to increases in the average number of RGUs and higher ARPU from our SOHO customers, (ii) lower revenue from fixed-line telephony services, primarily due to decreases in fixed-line telephony service revenue from medium and large enterprises, and (iii) increases in revenue from video services, primarily due to higher average numbers of RGUs and higher ARPU from our SOHO customers.

- (e) The decrease in B2B mobile service revenue is due to (i) lower SOHO revenue from mobile services attributable to lower ARPU associated with customers switching to consumer mobile plans, (ii) the impact of lower intra-EU roaming revenue, and (iii) lower out-of-bundle usage.

#### *Programming and other direct costs of services*

Our programming and other direct costs of service decreased €49.9 million or 5.4% during 2017, as compared to 2016. This decrease includes the following factors:

- A decrease in mobile access and interconnect costs of €27.1 million or 10.7%, primarily due to the net effect of (i) lower MTR and FTR of €31.4 million, (ii) higher mobile roaming costs of €13.7 million, (iii) lower fixed-line and mobile call volumes of €11.5 million, and (iv) an increase of €6.9 million resulting from a cumulative adjustment recorded during the first quarter of 2016 attributable to a change in regulations that retrospectively reduced roaming rates;
- A decrease in programming and copyright costs of €17.6 million or 5.0%, primarily due to the net effect of (i) a decrease of €10.5 million resulting from the reassessment of programming and copyright accruals, (ii) a decrease of €9.2 million attributable to the *Film 1* Disposal, (iii) higher costs for certain premium and basic content of €7.6 million, including costs related to Ziggo Sport, and (iv) a decrease in copyright costs of €6.7 million; and
- A decrease in equipment costs of €7.4 million or 2.3%, primarily due to a €14.8 million decrease related to lower mobile handset costs and sales volumes that was only partially offset by increased costs of €6.9 million related to higher sales of WiFi coverage extension devices.

#### *Other operating expenses*

Our other operating expenses increased €4.4 million or 0.9% during 2017, as compared to 2016. This increase includes the following factors:

- An increase in network-related expenses of €7.5 million or 4.2%, primarily due to the net effect of (i) an increase in customer-based activities such as modem swaps, (ii) an increase in network maintenance costs, and (iii) lower access fees;
- A decrease in outsourced labor and professional fees of €3.8 million or 4.0%, primarily due to lower call center costs in 2017 and professional fees incurred during 2016 in connection with the JV Transaction; and
- An increase in information technology-related expenses of €2.4 million or 42.2%, primarily due to higher software and other information technology-related costs associated with the integration of and Vodafone platforms.

#### *SG&A expenses*

Our SG&A expenses decreased €2.6 million or 0.4% during 2017, as compared to 2016. Our SG&A expenses include share-based compensation expense, which decreased €5.8 million. Excluding the effects of share-based compensation expense, our SG&A expenses increased €3.2 million or 0.5%. This increase includes the following factors:

- A decrease in external sales and marketing costs of €28.8 million or 9.7%, primarily due to the net effect of (i) lower third-party sales commissions, (ii) lower costs associated with advertising campaigns, and (iii) higher third-party costs related to Vodafone rebranding efforts;
- An increase in personnel costs of €26.7 million or 9.8%, primarily due to higher incentive compensation, pension-related and temporary personnel costs;
- An increase in outsourced labor and professional fees of €10.9 million or 6.5%, primarily due to an increase in consulting and audit costs;
- A decrease in facilities-related costs of €5.6 million or 9.8%, primarily due to lower rent costs and facilities maintenance; and

- A decrease in information technology-related expenses of €3.2 million or 3.8%, largely due to lower software costs.

#### *Related-party fees and allocations*

We recorded charges for JV Services of €243.6 million during 2017 as compared to €252.0 million during 2016 on a pro forma basis. The JV Services provided by the respective subsidiaries of the Shareholders consist primarily of (i) technology and other services, (ii) capital-related expenditures for assets that we will use or will otherwise benefit our company, and (iii) brand name and procurement fees. For additional information regarding charges for JV Services, see note 5 to our consolidated financial statements.

#### *Depreciation and amortization expense*

Our depreciation and amortization expense increased €19.7 million or 1.3% during 2017, as compared to 2016. This increase is primarily due the net effect of (i) an increase associated with property and equipment additions related to the installation of customer premises equipment, the expansion and upgrade of our networks, and other capital initiatives and (ii) a decrease associated with certain assets becoming fully depreciated.

#### *Impairment, restructuring and other operating items, net*

We recognized impairment, restructuring and other operating items, net, of €7.6 million and €13.7 million during 2017 and 2016, respectively. The 2017 amount primarily relates to (i) restructuring charges of €10.8 million that primarily comprise employee severance and termination costs related to certain reorganization activities following the formation of the VodafoneZiggo JV, (ii) a gain of €5.9 million related to the sale of tangible assets, and (iii) impairment charges of €2.7 million, primarily related to tangible assets. The 2016 pro forma amount primarily relates to (a) restructuring charges of €13.4 million that primarily comprise employee severance and termination costs related to certain reorganization activities following the Ziggo Acquisition, (b) a gain related to the settlement of a legal contingency, (c) a loss of €1.1 million related to the sale of tangible assets, and (d) impairment charges of €1.1 million, primarily related to tangible assets.

For additional information regarding the formation of the VodafoneZiggo JV, see note 5 to our consolidated financial statements.

#### *Interest expense – third-party*

Our third-party interest expense increased €6.9 million or 1.5% during 2017, as compared to 2016. This increase is primarily due to higher average outstanding debt balances related to debt issued during September 2016 in advance of the closing of the JV Transaction. For additional information regarding our third-party debt, see note 9 to our consolidated financial statements.

It is possible that the interest rates on (i) any new borrowings could be higher than the current interest rates on our existing indebtedness and (ii) our variable-rate indebtedness could increase in future periods. As further discussed in note 6 to our consolidated financial statements, we use derivative instruments to manage our interest rate risks.

#### *Interest expense – related-party*

Our related-party interest expense increased €10.7 million or 10.5% during 2017, as compared to 2016. This increase is primarily due to the net effect of (i) higher interest rates on outstanding related-party loans and (ii) lower interest expense resulting from a lower average outstanding principal balance, attributable to the net effect of (a) decreases related to the Liberty Global Note and a note payable to Liberty Global Europe that was converted to equity prior to the closing of the JV Transaction and (b) an increase related to the assumption of principal under the Vodafone Note with the closing of the JV Transaction. For additional information regarding our related-party debt, see note 11 to our consolidated financial statements.

#### *Interest income – third-party*

Our third-party interest income increased €1.9 million during 2017, as compared to 2016. This increase is due to higher overall cash balances during 2017, as compared to 2016.

*Realized and unrealized losses on derivative instruments, net*

Our realized and unrealized losses on derivative instruments include (i) unrealized changes in the fair values of our derivative instruments that are non-cash in nature until such time as the derivative contracts are fully or partially settled and (ii) realized gains or losses upon the full or partial settlement of the derivative contracts.

The details of our realized and unrealized losses on derivative instruments, net, are as follows:

	<b>Year ended December 31,</b>	
	<b>2017</b>	<b>2016</b>
	<b>in millions</b>	
	<b>pro forma</b>	
Cross-currency and interest rate derivative contracts (a)	€ (635.5)	€ (134.2)
Foreign currency forward contracts	(1.5)	—
<b>Total</b>	<b>€ (637.0)</b>	<b>€ (134.2)</b>

- (a) The loss during 2017 is primarily attributable to the net effect of (i) losses associated with an increase in the value of the euro relative to the U.S. dollar and (ii) gains associated with increases in market interest rates in the euro market. In addition, the loss during 2017 includes a net gain of €63.8 million resulting from changes in our credit risk valuation adjustments. The loss during 2016 is primarily attributable to the net effect of (a) losses associated with decreases in market interest rates in the euro market and (b) gains associated with a decrease in the value of the euro relative to the U.S. dollar. In addition, the loss during 2016 includes a net gain of €22.7 million resulting from changes in our credit risk valuation adjustments.

For additional information regarding our derivative instruments, see notes 6 and 7 to our consolidated financial statements.

*Foreign currency transaction gains (losses), net*

Our foreign currency transaction gains or losses primarily result from the remeasurement of monetary assets and liabilities that are denominated in currencies other than our functional currency. Unrealized foreign currency transaction gains or losses are computed based on period-end exchange rates and are non-cash in nature until such time as the amounts are settled. The details of our foreign currency transaction gains (losses), net, are as follows:

	<b>Year ended December 31,</b>	
	<b>2017</b>	<b>2016</b>
	<b>in millions</b>	
	<b>pro forma</b>	
U.S. dollar denominated debt	€ 647.4	€ (137.0)
Restricted cash and cash denominated in a currency other than our functional currency	19.1	0.8
Other	0.3	0.3
<b>Total</b>	<b>€ 666.8</b>	<b>€ (135.9)</b>

*Gains on debt modification and extinguishment, net*

We recognized gains on debt modification and extinguishment, net, of €15.2 million and nil during 2017 and 2016, respectively. The gain during 2017 includes the write-off of (i) €21.6 million of unamortized premiums and (ii) €6.4 million of deferred financing costs.

### *Income tax benefit*

We recognized income tax benefits of €91.7 million and €163.8 million during 2017 and 2016, respectively.

The income tax benefit during 2017 differs from the expected income tax benefit of €80.4 million (based on the Dutch income tax rate of 25.0%), primarily due to the positive impact of tax benefits associated with technology innovation.

The income tax benefit during 2016 differs from the expected income tax benefit of €135.2 million (based on the Dutch income tax rate of 25.0%), primarily due to the positive impact of the tax benefit associated with technology innovation. This tax benefit was partially offset by the net negative impact of an increase in valuation allowances.

For additional information regarding our income taxes, see note 10 to our consolidated financial statements.

### *Net loss*

During 2017 and 2016, we reported net losses of €229.8 million and €377.2 million, respectively, including (i) operating income of €192.6 million and €301.0 million, respectively, (ii) net non-operating expense of €514.1 million and €842.0 million, respectively, and (iii) income tax benefits of €91.7 million and €163.8 million, respectively.

## **Liquidity and Capital Resources**

### ***Sources and Uses of Cash***

As a holding company, VodafoneZiggo's primary assets are its investments in consolidated subsidiaries. As further described in note 9 to our consolidated financial statements, the terms of the instruments governing the indebtedness of certain of these subsidiaries may restrict our ability to access the assets of these subsidiaries. The ability to access the liquidity of our subsidiaries may also be limited by tax and legal considerations and other factors. At December 31, 2018, most of our €239.4 million of consolidated cash was held by our subsidiaries.

### ***Liquidity of VodafoneZiggo***

Our sources of liquidity at the parent level include, subject to the restrictions noted above, proceeds in the form of distributions or loans from our subsidiaries. It is the intention of the Shareholders of the VodafoneZiggo JV, that VodafoneZiggo will be a self-funding company capable of financing its activities on a stand-alone basis without recourse to either Shareholder. No assurance can be given that funding from our subsidiaries or external sources would be available on favorable terms, or at all.

VodafoneZiggo's corporate liquidity requirements include corporate general and administrative expenses and fees associated with the JV Service Agreements. From time to time, VodafoneZiggo may also require cash in connection with (i) the repayment of its related-party debt and interest, (ii) the funding of dividends or distributions pursuant to the Shareholders Agreement, which requires VodafoneZiggo to distribute all unrestricted cash (as defined in the Shareholders Agreement) to the Shareholders every two months (subject to VodafoneZiggo maintaining a minimum amount of cash and complying with the terms of its financing arrangements), (iii) the satisfaction of contingent liabilities, (iv) acquisitions and other investment opportunities and (v) income tax payments.

### ***Liquidity of our Subsidiaries***

In addition to cash, the primary sources of liquidity of our operating subsidiaries are cash provided by operations and, in the case of Ziggo B.V. and certain of its subsidiaries, any borrowing availability under the Revolving Facilities.

The liquidity of our operating subsidiaries generally is used to fund property and equipment additions, debt service requirements, and other liquidity requirements that may arise from time to time. For additional information regarding our consolidated cash flows, see the discussion under *Consolidated Statements of Cash Flows* below. Our subsidiaries may also require funding in connection with (i) the repayment of amounts due under the third-party and related-party debt instruments of our subsidiaries, (ii) acquisitions and other investment opportunities, (iii) distributions or loans to VodafoneZiggo (and ultimately to the Shareholders of the VodafoneZiggo JV) and (iv) the satisfaction of contingencies. No assurance can be given that any external funding would be available to our subsidiaries on favorable terms, or at all.

## Capitalization

At December 31, 2018, our outstanding third-party debt and capital lease obligations aggregated €11.0 billion, including €1,005.7 million that is classified as current in our consolidated balance sheet and €9.9 billion that is not due until 2021 or thereafter. For additional information regarding our current debt maturities, see note 9 to our consolidated financial statements.

As further discussed in note 6 to our consolidated financial statements, we use derivative instruments to mitigate foreign currency and interest rate risk associated with our debt instruments.

Our ability to service or refinance our debt and to maintain compliance with the leverage covenants in our credit agreements and indentures is dependent primarily on our ability to maintain or increase our Covenant EBITDA and to achieve adequate returns on our property and equipment additions and acquisitions. Pursuant to the Shareholders Agreement, we expect to maintain a leverage ratio between 4.5 and 5.0 times Covenant EBITDA. In addition, our ability to obtain additional debt financing is limited by the leverage covenants contained in the various debt instruments of our subsidiaries. In this regard, if our Covenant EBITDA were to decline, we could be required to repay or limit our borrowings under the Credit Facility in order to maintain compliance with applicable covenants. No assurance can be given that we would have sufficient sources of liquidity, or that any external funding would be available on favorable terms, or at all, to fund any such required repayment. We do not anticipate any instances of non-compliance with respect to any of our subsidiaries' debt covenants that would have a material adverse impact on our liquidity during the next 12 months.

Notwithstanding our negative working capital position at December 31, 2018, we believe that we have sufficient resources to repay or refinance the current portion of our debt and capital lease obligations and to fund our foreseeable liquidity requirements during the next 12 months. However, as our maturing debt grows in later years, we anticipate that we will seek to refinance or otherwise extend our debt maturities. No assurance can be given that we will be able to complete these refinancing transactions or otherwise extend our debt maturities. In this regard, it is not possible to predict how political and economic conditions, sovereign debt concerns or any adverse regulatory developments could impact the credit markets we access and, accordingly, our future liquidity and financial position. However, (i) the financial failure of any of our counterparties could (a) reduce amounts available under committed credit facilities and (b) adversely impact our ability to access cash deposited with any failed financial institution and (ii) tightening of the credit markets could adversely impact our ability to access debt financing on favorable terms, or at all. In addition, sustained or increased competition, particularly in combination with adverse economic or regulatory developments, could have an unfavorable impact on our cash flows and liquidity.

All of our debt and capital lease obligations at December 31, 2018 has been borrowed or incurred by our subsidiaries.

For additional information regarding our debt and capital lease obligations, see note 9 to our consolidated financial statements.

## Consolidated Statements of Cash Flows

### Consolidated Statements of Cash Flows – 2018 compared to 2017

*Summary.* Our consolidated statements of cash flows for 2018 and 2017 are summarized as follows:

	Successor		
	Year ended		
	December 31,		
	2018	2017	Change
	in millions		
Net cash provided by operating activities	€ 1,143.2	€ 1,231.1	€ (87.9)
Net cash used by investing activities	(202.0)	(490.6)	288.6
Net cash used by financing activities	(976.9)	(3,525.1)	2,548.2
Effect of exchange rate changes on cash and cash equivalents and restricted cash	0.4	19.1	(18.7)
Net decrease in cash and cash equivalents and restricted cash	€ (35.3)	€ (2,765.5)	€ 2,730.2

*Operating Activities.* The decrease in net cash provided by our operating activities is primarily attributable to the net effect of a decrease in the cash provided by our OCF and related working capital changes.

*Investing Activities.* The decrease in net cash used by our investing activities is primarily attributable to a decrease in cash used of €281.7 million due to lower capital expenditures mainly driven by increased purchases through our vendor financing program.

The capital expenditures that we report in our consolidated statements of cash flows do not include amounts that our company has financed under vendor financing or capital lease arrangements. Instead, these amounts are reflected as non-cash additions to our property and equipment when the underlying assets are delivered and as repayments of debt when the principal is repaid. In this discussion, we refer to (i) our capital expenditures as reported in our consolidated statements of cash flows, which exclude amounts financed under vendor financing or capital lease arrangements, and (ii) our total property and equipment additions, which include our capital expenditures on an accrual basis and amounts financed under capital-related vendor financing or capital lease arrangements. For further details regarding our property and equipment additions and our debt, see notes 8 and 9, respectively, to our consolidated financial statements.

A reconciliation of our property and equipment additions to our capital expenditures as reported in our consolidated statements of cash flows is set forth below:

	<b>Successor</b>	
	<b>Year ended</b>	
	<b>December 31,</b>	
	<b>2018</b>	<b>2017</b>
	<b>in millions</b>	
Property and equipment additions	€ 836.8	€ 826.9
Assets acquired under capital-related vendor financing arrangements	(572.7)	(330.6)
Assets acquired under related-party capital leases	(23.5)	—
Changes in current liabilities related to capital expenditures	(27.1)	(1.1)
Capital expenditures	<u>€ 213.5</u>	<u>€ 495.2</u>

The increase in our property and equipment additions is primarily attributable to an increase in expenditures for the distribution systems partially offset by a decrease in customer premises equipment expenditures. During 2018 and 2017, our property and equipment additions represented 21.5% and 20.7% of our revenue, respectively.

*Financing Activities.* The decrease in net cash used by our financing activities is primarily attributable to the net effect of (i) a decrease in cash used of €3,036.0 million related to lower distributions to VodafoneZiggo Group Holding, and ultimately to Liberty Global and Vodafone, (ii) an increase of €516.1 million related to higher net repayments of third-party debt, (iii) a decrease in cash used of €159.7 million related to derivative instruments, and (iv) an increase in cash used of €152.0 million due to decrease in VAT receivable from the Dutch tax authority.

Consolidated Statements of Cash Flows – 2017 compared to 2016

Summary. Our consolidated statements of cash flows for 2017 and 2016 are summarized as follows:

	Successor		Predecessor		Change
	Year ended December 31, 2017		Year ended December 31, 2016		
	in millions		in millions		
Net cash provided by operating activities	€	1,231.1	€	905.2	€ 325.9
Net cash used by investing activities		(489.9)		(394.7)	(95.2)
Net cash used by financing activities		(529.9)		(518.1)	(11.8)
Effect of exchange rate changes on cash		3.3		0.7	2.6
Net increase (decrease) in cash	€	214.6	€	(6.9)	€ 221.5

*Operating Activities.* The increase in net cash provided by our operating activities is primarily attributable to the net effect of (i) a net increase in the cash provided by our OCF and related working capital changes, (ii) a decrease in cash provided due to higher payments for interest, and (iii) an increase in cash provided due to lower payments related to derivative instruments.

*Investing Activities.* The increase in net cash used by our investing activities is primarily attributable to the net effect of (i) an increase in cash used of €151.3 million due to higher capital expenditures and (ii) a decrease in cash used of €51.4 million associated with lower advances to related parties.

The capital expenditures that we report in our consolidated statements of cash flows do not include amounts that our company has financed under vendor financing or capital lease arrangements. Instead, these amounts are reflected as non-cash additions to our property and equipment when the underlying assets are delivered and as repayments of debt when the principal is repaid. In this discussion, we refer to (i) our capital expenditures as reported in our consolidated statements of cash flows, which exclude amounts financed under vendor financing or capital lease arrangements, and (ii) our total property and equipment additions, which include our capital expenditures on an accrual basis and amounts financed under capital-related vendor financing or capital lease arrangements. For further details regarding our property and equipment additions and our debt, see notes 8 and 9, respectively, to our consolidated financial statements.

A reconciliation of our property and equipment additions to our capital expenditures as reported in our consolidated statements of cash flows is set forth below:

	Successor		Predecessor	
	Year ended December 31, 2017		Year ended December 31, 2016	
	in millions		in millions	
Property and equipment additions	€	826.9	€	533.6
Assets acquired under capital-related vendor financing arrangements		(330.6)		(179.7)
Changes in current liabilities related to capital expenditures		(1.1)		(10.0)
Capital expenditures	€	495.2	€	343.9

The increase in our property and equipment additions is primarily attributable to the net effect of (i) an increase in scalable infrastructure, (ii) an increase in expenditures for support capital, such as information technology upgrades and general support systems, (iii) an increase in expenditures for new build and upgrade projects, and (iv) an increase in expenditures for the purchase and installation of customer premises equipment. During 2017 and 2016, our property and equipment additions represented 20.6% and 21.8% of our revenue, respectively.

*Financing Activities.* The increase in net cash used by our financing activities is primarily attributable to the net effect of (i) an increase in cash used of €3,436.0 million related to distributions to VodafoneZiggo Group Holding, and ultimately to Liberty Global and Vodafone in accordance with the terms of the Contribution Agreement, (ii) a decrease in cash used of €232.4 million

related to lower related-party payments, (iii) a decrease in cash used of €200.1 million related to increased net borrowings of third-party debt, (iv) an increase in cash used of €158.8 million related to derivative instruments, and (v) a decrease in cash used of €152.0 million due to the receipt of VAT from the Dutch tax authority.

### **Contractual Commitments**

The following table sets forth the euro equivalents of our commitments as of December 31, 2018:

	<b>Payments due during:</b>						<b>Total</b>
	<b>2019</b>	<b>2020</b>	<b>2021</b>	<b>2022</b>	<b>2023</b>	<b>Thereafter</b>	
	<b>in millions</b>						
<b>Debt (excluding interest):</b>							
Third-party	€ 999.3	€ 71.7	€ —	€ —	€ —	€ 9,814.7	€10,885.7
Related-party	200.0	—	—	—	—	1,400.0	1,600.0
<b>Capital leases (excluding interest):</b>							
Third-party	6.6	5.4	3.5	2.0	0.8	0.2	18.5
Related-party	0.2	—	—	—	—	—	0.2
JV Service Agreements (a)	170.0	147.2	111.8	111.3	30.0	60.0	630.3
Programming commitments	111.5	95.4	44.9	0.4	—	—	252.2
Network and connectivity commitments	59.1	43.3	39.0	27.7	16.3	50.4	235.8
Operating leases	30.2	28.8	24.7	16.2	15.3	46.8	162.0
Purchase commitments	222.8	1.0	1.0	—	—	—	224.8
Other commitments	20.4	14.8	6.9	3.3	—	—	45.4
<b>Total (b)</b>	<b>€1,820.1</b>	<b>€ 407.6</b>	<b>€ 231.8</b>	<b>€ 160.9</b>	<b>€ 62.4</b>	<b>€11,372.1</b>	<b>€14,054.9</b>
<b>Projected cash interest payments on debt and capital lease obligations (c):</b>							
Third-party	€ 476.2	€ 477.0	€ 473.6	€ 473.4	€ 464.8	€ 968.7	€ 3,333.7
Related-party	90.0	79.0	78.8	78.8	78.8	315.1	720.5
<b>Total</b>	<b>€ 566.2</b>	<b>€ 556.0</b>	<b>€ 552.4</b>	<b>€ 552.2</b>	<b>€ 543.6</b>	<b>€ 1,283.8</b>	<b>€ 4,054.2</b>

- (a) Amounts represent fixed minimum charges from Liberty Global and Vodafone pursuant to the JV Service Agreements. In addition to the fixed minimum charges, the JV Service Agreements provide for certain JV Services to be charged to us based upon usage of the services received. The fixed minimum charges set forth in the table above exclude fees for the usage-based services as these fees will vary from period to period. Accordingly, we expect to incur charges in addition to those set forth in the table above for usage-based services. For additional information concerning the JV Service Agreements, see note 11 to our consolidated financial statements.
- (b) The commitments included in this table do not reflect any liabilities that are included in our December 31, 2018 consolidated balance sheet other than debt and capital lease obligations.
- (c) Amounts include interest payments on third-party debt and capital lease obligations, as well as estimated interest payments on the Liberty Global Note and the Vodafone Note. Amounts related to third-party debt are based on interest rates, interest payment dates, commitment fees and contractual maturities in effect as of December 31, 2018. These amounts are presented for illustrative purposes only and will likely differ from the actual cash payments required in future periods. In addition, the amounts presented do not include the impact of our interest rate derivative contracts, deferred financing costs or original issue premiums or discounts.

For additional information concerning our debt and capital lease obligations, see note 9 to our consolidated financial statements. For additional information concerning the Liberty Global Note and the Vodafone Note, see note 11 to our consolidated financial statements. For information concerning our commitments, see note 13 to our consolidated financial statements.

In addition to the commitments set forth in the table above, we have commitments under (i) derivative instruments and (ii) multiemployer benefit plans, pursuant to which we expect to make payments in future periods. For information regarding projected cash flows associated with these derivative instruments, see *Projected Cash Flows Associated with Derivative Instruments* below. For information regarding our derivative instruments, including the net cash paid or received in connection with these instruments during 2018 and 2017, see note 6 to our consolidated financial statements.

***Projected Cash Flows Associated with Derivative Instruments***

The following table provides information regarding the projected cash flows associated with our derivative instruments. The euro equivalents presented below are based on interest rates and exchange rates that were in effect as of December 31, 2018. These amounts are presented for illustrative purposes only and will likely differ from the actual cash receipts/payments in future periods. For additional information regarding our derivative instruments, including our counterparty credit risk, see note 6 to our consolidated financial statements.

	<b>Receipts due during:</b>					<b>Total</b>
	<b>2019</b>	<b>2020</b>	<b>2021</b>	<b>2022</b>	<b>Thereafter</b>	
	<b>in millions</b>					
Projected derivative cash receipts, net:						
Interest-related (a)	€ 6.6	€ 26.2	€ 24.9	€ 23.4	€ 36.1	€ 117.2
Principal-related (b)	—	—	—	—	176.1	176.1
<b>Total</b>	<b>€ 6.6</b>	<b>€ 26.2</b>	<b>€ 24.9</b>	<b>€ 23.4</b>	<b>€ 212.2</b>	<b>€ 293.3</b>

(a) Includes the interest-related cash flows of our cross-currency and interest rate swap contracts.

(b) Includes the principal-related cash flows of our cross-currency swap contracts.

## Critical Accounting Policies, Judgments, and Estimates

The following accounting policy discussion relates to policies, judgments, and estimates used during the Successor period.

In connection with the preparation of our consolidated financial statements, we make estimates and assumptions that affect the reported amounts of assets and liabilities, revenue and expenses and related disclosure of contingent assets and liabilities. Critical accounting policies are defined as those policies that are reflective of significant judgments, estimates and uncertainties, which would potentially result in materially different results under different assumptions and conditions. We believe the following accounting policies are critical in the preparation of our consolidated financial statements because of the judgment necessary to account for these matters and the significant estimates involved, which are susceptible to change:

- Impairment of property and equipment and intangible assets (including goodwill);
- Costs associated with construction and installation activities;
- Fair value measurements; and
- Income tax accounting.

For additional information concerning our significant accounting policies, see note 3 to our consolidated financial statements.

### *Impairment of Property and Equipment and Intangible Assets*

*Carrying Value.* The aggregate carrying value of our property and equipment and intangible assets (including goodwill) that was held for use comprised 94.8% of our total assets at December 31, 2018.

When circumstances warrant, we review the carrying amounts of our property and equipment and our intangible assets (other than goodwill) to determine whether such carrying amounts continue to be recoverable. Such changes in circumstance may include (i) an expectation of a sale or disposal of a long-lived asset or asset group, (ii) an adverse change in legal factors or business climate in the market in which we operate, and (iii) operating or cash flow losses. For purposes of impairment testing, long-lived assets are grouped at the lowest level for which cash flows are largely independent of other assets and liabilities, generally at or below the reporting unit level (see below). If the carrying amount of the asset or asset group is greater than the expected undiscounted cash flows to be generated by such asset or asset group, an impairment adjustment is recognized. Such adjustment is measured by the amount that the carrying value of such asset or asset group exceeds its fair value. We generally measure fair value by considering (a) sale prices for similar assets, (b) discounted estimated future cash flows using an appropriate discount rate and/or (c) estimated replacement cost. Assets to be disposed of are recorded at the lower of their carrying amount or fair value less costs to sell.

We evaluate goodwill for impairment at least annually on October 1 and whenever facts and circumstances indicate that their carrying amounts may not be recoverable. For impairment evaluations with respect to goodwill, we first make a qualitative assessment to determine if the goodwill may be impaired. If it is more-likely-than-not that the reporting unit's fair value is less than its carrying value, we then compare the fair value of the reporting unit to its respective carrying amount. Any excess of the carrying amount over the fair value would be charged to operations as an impairment loss. A reporting unit is an operating segment or one level below an operating segment (referred to as a "component").

When required, considerable management judgment is necessary to estimate the fair value of reporting units and underlying long-lived and indefinite-lived assets. We typically determine fair value using an income-based approach (discounted cash flows) based on assumptions in our long-range business plans and, in some cases, a combination of an income-based approach and a market-based approach. With respect to our discounted cash flow analysis used in the income-based approach, the timing and amount of future cash flows under these business plans require estimates of, among other items, subscriber growth and retention rates, rates charged per product, expected gross margins and OCF margins (OCF divided by revenue), and expected property and equipment additions. The development of these cash flows, and the discount rate applied to the cash flows, is subject to inherent uncertainties, and actual results could vary significantly from such estimates. Our determination of the discount rate is based on a weighted average cost of capital approach, which uses a market participant's cost of equity and after-tax cost of debt and reflects the risks inherent in the cash flows.

During the three years ended December 31, 2018, we did not record any significant impairment charges with respect to our property and equipment and intangible assets. For additional information regarding our long-lived assets, see note 8 to our consolidated financial statements.

If, among other factors, the adverse impacts of economic, competitive, regulatory or other factors were to cause our results of operations or cash flows to be worse than anticipated, which would result in a significant decrease in our enterprise value, we could conclude in future periods that impairment charges are required in order to reduce the carrying values of our goodwill and, to a lesser extent, other long-lived assets. Any such impairment charges could be significant.

### ***Costs Associated with Construction and Installation Activities***

We capitalize costs associated with the construction of new cable and mobile transmission and distribution facilities and the installation of new cable services. Installation activities that are capitalized include (i) the initial connection (or drop) from our cable system to a customer location, (ii) the replacement of a drop, and (iii) the installation of equipment for additional services, such as digital cable, telephone or broadband internet service. The costs of other customer-facing activities, such as reconnecting customer locations where a drop already exists, disconnecting customer locations, and repairing or maintaining drops, are expensed as incurred.

The nature and amount of labor and other costs to be capitalized with respect to construction and installation activities involves significant judgment. In addition to direct external and internal labor and materials, we also capitalize other costs directly attributable to our construction and installation activities, including dispatch costs, quality-control costs, vehicle-related costs, and certain warehouse-related costs. The capitalization of these costs is based on time sheets, time studies, standard costs, call tracking systems, and other verifiable means that directly link the costs incurred with the applicable capitalizable activity. We continuously monitor the appropriateness of our capitalization policies and update the policies when necessary to respond to changes in facts and circumstances, such as the development of new products and services, and changes in the manner that installations or construction activities are performed.

### ***Fair Value Measurements***

U.S. GAAP provides guidance with respect to the recurring and nonrecurring fair value measurements and for a fair value hierarchy that prioritizes the inputs to valuation techniques used to measure fair value into three broad levels. Level 1 inputs are quoted market prices in active markets for identical assets or liabilities that the reporting entity has the ability to access at the measurement date. Level 2 inputs are inputs other than quoted market prices included within Level 1 that are observable for the asset or liability, either directly or indirectly. Level 3 inputs are unobservable inputs for the asset or liability.

*Recurring Valuations.* We perform recurring fair value measurements with respect to our derivative instruments. We use cash flow valuation models to determine the fair values of our interest rate and foreign currency derivative instruments. For a detailed discussion of the inputs we use to determine the fair value of our derivative instruments, see note 7 to our consolidated financial statements. See also note 6 to our consolidated financial statements for information concerning our derivative instruments.

Changes in the fair values of our derivative instruments have had, and we believe will continue to have, a significant and volatile impact on our results. During 2018, 2017 and 2016, we recognized net gains (losses) of €295.8 million, (€637.0 million) and (€134.2 million), respectively, attributable to changes in the fair values of these items.

As further described in note 7 to our consolidated financial statements, actual amounts received or paid upon the settlement or disposition of these instruments may differ materially from the recorded fair values at December 31, 2018.

*Nonrecurring Valuations.* Our nonrecurring valuations are primarily associated with (i) the application of acquisition accounting, (ii) impairment assessments, and (iii) fair value assessments in connection with the closing of the JV Transaction, each of which require that we make fair value determinations as of the applicable valuation date. In making these determinations, we are required to make estimates and assumptions that affect the recorded amounts, including, but not limited to, expected future cash flows, market comparables and discount rates, remaining useful lives of long-lived assets, replacement or reproduction costs of property and equipment and the amounts to be recovered in future periods from acquired net operating losses and other deferred tax assets. To assist us in making these fair value determinations, we may engage third-party valuation specialists. Our estimates in this area impact, among other items, the amount of depreciation and amortization, impairment charges and income tax expense or benefit that we report. Our estimates of fair value are based upon assumptions we believe to be reasonable, but which are

inherently uncertain. A significant portion of our long-lived assets were initially recorded through the application of acquisition accounting and all of our long-lived assets are subject to impairment assessments. For additional information, including the specific weighted average discount rates that we used to complete certain nonrecurring valuations, see note 7 to our consolidated financial statements. For information regarding the JV Transaction and long-lived assets, see notes 5 and 8 to our consolidated financial statements, respectively.

### ***Income Tax Accounting***

Tax laws in the Netherlands are subject to varied interpretation, and many tax positions we take may be subject to uncertainty regarding whether the position will be ultimately sustained after review by the relevant tax authority. We recognize the financial statement effects of a tax position when it is more-likely-than-not, based on technical merits, that the position will be sustained upon examination. The determination of whether the tax position meets the more-likely-than-not threshold requires a facts-based judgment using all information available.

We are required to estimate the amount of tax payable or refundable for the current year and the deferred tax assets and liabilities for the future tax consequences attributable to differences between the financial statement carrying amounts and income tax basis of assets and liabilities and the expected benefits of utilizing net operating loss and tax credit carryforwards, using enacted tax rates in effect for each taxing jurisdiction in which we operate for the year in which those temporary differences are expected to be recovered or settled. This process requires our management to make assessments regarding the timing and probability of the ultimate tax impact of such items.

Net deferred tax assets are reduced by a valuation allowance if we believe it more-likely-than-not such net deferred tax assets will not be realized. Establishing or reducing a tax valuation allowance requires us to make assessments about the timing of future events, including the probability of expected future taxable income and available tax planning strategies. The actual amount of deferred income tax benefits realized in future periods will likely differ from the net deferred tax assets reflected in our December 31, 2018 consolidated balance sheet due to, among other factors, possible future changes in income tax law or interpretations thereof in the jurisdictions in which we operate and differences between estimated and actual future taxable income. Any such factors could have a material effect on our current and deferred tax positions as reported in our consolidated financial statements. A high degree of judgment is required to assess the impact of possible future outcomes on our current and deferred tax positions.

For additional information concerning our income taxes, see note 10 to our consolidated financial statements.

## INDEPENDENT AUDITOR'S REPORT

The Board of Directors  
VodafoneZiggo Group B.V.:

### Report on the Accompanying Consolidated Financial Statements

#### *Our Opinion*

We have audited the consolidated financial statements of VodafoneZiggo Group B.V., based in Utrecht, The Netherlands.

In our opinion the accompanying consolidated financial statements present fairly, in all material respects, the financial position of VodafoneZiggo Group B.V. as of December 31, 2018 and the result of its operations and its cash flows for the year ended December 31, 2018 in accordance with U.S. generally accepted accounting principles.

The consolidated financial statements comprise:

1. the consolidated balance sheet as of December 31, 2018;
2. the consolidated statement of operations, owner's equity and cash flows for the year ended December 31, 2018; and
3. the related notes to the consolidated financial statements.

#### *Basis for our opinion*

We conducted our audit in accordance with Dutch law, including the Dutch Standards on Auditing. Our responsibilities under those standards are further described in the 'Our responsibilities for the audit of the consolidated financial statements' section of our report.

We are independent of VodafoneZiggo Group B.V. in accordance with the 'Verordening inzake de onafhankelijkheid van accountants bij assurance-opdrachten' (ViO, Code of Ethics for Professional Accountants, a regulation with respect to independence) and other relevant independence regulations in the Netherlands. Furthermore, we have complied with the 'Verordening gedrags- en beroepsregels accountants' (VGBA, Dutch Code of Ethics).

We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our opinion.

### Report on the Other Information Included in the Annual Report

In addition to the consolidated financial statements and our auditor's report thereon, the annual report contains other information that consists of the chapters:

- Forward-looking Statements;
- Business; and
- Management's Discussion and Analysis of Financial Condition and Results of Operations.

Based on the following procedures performed, we conclude that other information is consistent with the consolidated financial statements and does not contain material misstatements:

We have read the other information. Based on our knowledge and understanding obtained through our audit of the consolidated financial statements or otherwise, we have considered whether the other information contains material misstatements.

By performing these procedures, we comply with the requirements of the Dutch Standard 720. The scope of the procedures performed is less than the scope of those performed in our audit of the consolidated financial statements.

The Board of Directors is responsible for the preparation of the other information.

## **Description of the Responsibilities for the Consolidated Financial Statements**

### ***Responsibilities of the Board of Directors for the Consolidated Financial Statements***

The Board of Directors is responsible for the preparation and fair presentation of the consolidated financial statements in accordance with U.S. generally accepted accounting principles. Furthermore, the Board of Directors is responsible for such internal control as the Board of Directors determines is necessary to enable the preparation of the consolidated financial statements that are free from material misstatement, whether due to errors or fraud.

As part of the preparation of the consolidated financial statements, the Board of Directors is responsible for assessing the company's ability to continue as a going concern. Based on the financial reporting frameworks mentioned, the Board of Directors should prepare the consolidated financial statements using the going concern basis of accounting unless when liquidation is imminent. The Board of Directors should disclose events and circumstances that may cast significant doubt on the company's ability to continue as a going concern in the consolidated financial statements.

### ***Our Responsibilities for the Audit of the Consolidated Financial Statements***

Our objective is to plan and perform the audit assignment in a manner that allows us to obtain sufficient and appropriate audit evidence for our opinion.

Our audit has been performed with a high, but not absolute, level of assurance, which means we may not have detected all material errors and fraud during our audit.

Misstatements can arise from fraud or errors 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 the consolidated financial statements. The materiality affects the nature, timing and extent of our audit procedures and the evaluation of the effect of identified misstatements on our opinion.

A further description of our responsibilities for the audit of the consolidated financial statements is located at the website of de 'Koninklijke Nederlandse Beroepsorganisatie van Accountants' (NBA, Royal Netherlands Institute of Chartered Accountants) at: [http://www.nba.nl/ENG\\_algemeen\\_01](http://www.nba.nl/ENG_algemeen_01). This description forms part of our independent auditor's report.

Amstelveen, the Netherlands  
March 14, 2019  
KPMG Accountants N.V.  
C.A. Bakker RA

**VODAFONEZIGGO GROUP B.V.**  
**CONSOLIDATED BALANCE SHEETS**

	<b>Successor</b>	
	<b>December 31,</b>	
	<b>2018</b>	<b>2017</b>
	<b>in millions</b>	
<b>ASSETS</b>		
<b>Current assets:</b>		
Cash and cash equivalents	€ 239.4	€ 274.5
Trade receivables, net	206.2	226.2
Related-party receivables (note 11)	18.1	20.6
Prepaid expenses	46.4	59.0
Inventory held for sale, net	37.5	25.7
Derivative instruments (note 6)	74.5	45.9
Contract assets (notes 2 and 3)	169.8	—
Other current assets, net (note 4)	93.3	33.0
Total current assets	885.2	684.9
Property and equipment, net (note 8)	5,320.9	5,431.7
Goodwill (note 8)	7,375.5	7,375.5
Intangible assets subject to amortization, net (note 8)	6,554.1	7,171.5
Long-term contract assets (notes 2 and 3)	55.0	—
Other assets, net (notes 4 and 6)	116.8	49.5
Total assets	€ 20,307.5	€ 20,713.1

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

**VODAFONEZIGGO GROUP B.V.**  
**CONSOLIDATED BALANCE SHEETS — (Continued)**

	<b>Successor</b>	
	<b>December 31,</b>	
	<b>2018</b>	<b>2017</b>
	<b>in millions</b>	
<b>LIABILITIES AND OWNER'S EQUITY</b>		
<b>Current liabilities:</b>		
Accounts payable (note 11)	€ 395.4	€ 370.8
<b>Accrued and other current liabilities:</b>		
Third-party (note 12)	313.0	325.0
Related-party (note 11)	2.4	11.5
Deferred revenue and advance payments from subscribers and others (notes 2 and 4)	203.6	192.2
VAT payable	107.8	122.1
Derivative instruments (note 6)	71.9	65.4
Accrued interest (note 9)	155.9	151.0
<b>Current portion of debt and capital lease obligations (note 9):</b>		
Third-party	1,005.7	750.4
Related-party (note 11)	200.2	200.8
<b>Total current liabilities</b>	<b>2,455.9</b>	<b>2,189.2</b>
<b>Long-term debt and capital lease obligations (note 9):</b>		
Third-party	9,946.2	9,718.4
Related-party (note 11)	1,400.0	1,600.2
Deferred income taxes (note 10)	1,070.2	1,385.4
Other long-term liabilities (notes 2, 4, 6 and 12)	465.1	697.3
<b>Total liabilities</b>	<b>15,337.4</b>	<b>15,590.5</b>
<b>Commitments and contingencies (notes 6, 11 and 13)</b>		
<b>Total owner's equity (notes 2 and 3)</b>	<b>4,970.1</b>	<b>5,122.6</b>
<b>Total liabilities and owner's equity</b>	<b>€ 20,307.5</b>	<b>€ 20,713.1</b>

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

**VODAFONEZIGGO GROUP B.V.**  
**CONSOLIDATED STATEMENTS OF OPERATIONS**

	Successor		Predecessor
	Year ended		Year ended
	December 31,		December 31,
	2018	2017	2016
	in millions		in millions
Revenue (notes 2, 3, 11 and 14)	€ 3,895.4	€ 3,995.3	€ 2,430.6
Operating costs and expenses (exclusive of depreciation and amortization, shown separately below):			
Programming and other direct costs of services (note 11)	858.4	874.4	458.7
Other operating (note 11)	467.4	478.1	313.4
Selling, general and administrative (SG&A) (notes 2, 3 and 11)	643.6	712.9	341.4
Charges for JV Services (note 11)	227.7	243.6	—
Related-party fees and allocations (note 11)	—	—	233.1
Depreciation and amortization	1,552.0	1,486.1	917.4
Impairment, restructuring and other operating items, net (note 12)	35.7	7.6	26.8
	<u>3,784.8</u>	<u>3,802.7</u>	<u>2,290.8</u>
Operating income	110.6	192.6	139.8
Non-operating income (expense):			
Interest expense:			
Third-party	(473.1)	(463.0)	(363.1)
Related-party (note 11)	(101.0)	(112.6)	(163.8)
Realized and unrealized gains (losses) on derivative instruments, net (note 6)	295.8	(637.0)	(134.2)
Foreign currency transaction gains (losses), net	(232.5)	666.8	(78.1)
Gains (losses) on debt modification and extinguishment, net	—	15.2	(14.3)
Other income (expense), net	4.3	16.5	(13.9)
	<u>(506.5)</u>	<u>(514.1)</u>	<u>(767.4)</u>
Loss before income taxes	(395.9)	(321.5)	(627.6)
Income tax benefit (notes 2, 3 and 10)	318.4	91.7	183.0
Net loss	<u>€ (77.5)</u>	<u>€ (229.8)</u>	<u>€ (444.6)</u>

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

**VODAFONEZIGGO GROUP B.V.**  
**CONSOLIDATED STATEMENT OF OWNER'S EQUITY**

	<b>Total owner's equity in millions</b>
<b>Predecessor:</b>	
Balance at December 31, 2015	€ 1,407.1
Net loss	(444.6)
Conversion of related-party note to equity	2,449.5
Techtix termination fee, net of tax	(543.0)
Conversion of obligation arising from Techtix termination fee to equity	724.0
Contribution of VAT paid by Liberty Global on behalf of Old Ziggo	152.0
Distribution of net operating losses to Liberty Global Europe	(42.5)
Share-based compensation	8.8
Capital charge in connection with the exercise of share-based incentive awards	(3.9)
Excess consideration received over the carrying value of property and equipment transferred to entities under common control	(1.0)
Other	4.0
Balance at December 31, 2016 prior to closing of the JV Transaction	<u>€ 3,710.4</u>
<b>Successor:</b>	
Balance at December 31, 2016 after closing of the JV Transaction	€ 5,939.1
Net loss	(229.8)
Distributions to VodafoneZiggo Group Holding (note 11)	(592.0)
Share-based compensation (note 11)	5.3
Balance at December 31, 2017	5,122.6
Accounting change (note 2)	321.0
Balance at January 1, 2018	5,443.6
Net loss	(77.5)
Distributions to VodafoneZiggo Group Holding (note 11)	(400.0)
Share-based compensation (note 11)	2.8
Other	1.2
Balance at December 31, 2018	<u>€ 4,970.1</u>

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

**VODAFONEZIGGO GROUP B.V.**  
**CONSOLIDATED STATEMENTS OF CASH FLOWS**

	Successor Year ended December 31,		Predecessor Year ended December 31,
	2018	2017	2016
	in millions		in millions
Cash flows from operating activities:			
Net loss	€ (77.5)	€ (229.8)	€ (444.6)
Adjustments to reconcile net loss to net cash provided by operating activities:			
Share-based compensation expense	2.8	5.3	8.8
Related-party fees and allocations	—	—	233.1
Depreciation and amortization	1,552.0	1,486.1	917.4
Impairment, restructuring and other operating items, net	35.7	7.6	26.8
Related-party interest expense	—	—	163.8
Amortization of debt premiums, deferred financing costs and other non-cash interest	(11.5)	(11.4)	2.9
Realized and unrealized losses (gains) on derivative instruments, net	(295.8)	637.0	134.2
Foreign currency transaction losses (gains), net	232.5	(666.8)	78.1
Losses (gains) on debt modification and extinguishment of debt, net	—	(15.2)	14.3
Deferred income tax benefit	(318.4)	(91.7)	(183.0)
Changes in operating assets and liabilities	23.4	110.0	(46.6)
Net cash provided by operating activities	1,143.2	1,231.1	905.2
Cash flows from investing activities:			
Capital expenditures	(213.5)	(495.2)	(343.9)
Net advances to related parties	—	—	(51.4)
Other investing activities, net	11.5	4.6	0.6
Net cash used by investing activities	€ (202.0)	€ (490.6)	€ (394.7)

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

**VODAFONEZIGGO GROUP B.V.**  
**CONSOLIDATED STATEMENTS OF CASH FLOWS — (Continued)**

	<b>Successor</b>		<b>Predecessor</b>
	<b>Year ended</b>		<b>Year ended</b>
	<b>December 31,</b>		<b>December 31,</b>
	<b>2018</b>	<b>2017</b>	<b>2016</b>
	<b>in millions</b>		<b>in millions</b>
<b>Cash flows from financing activities:</b>			
Repayments of third-party debt	€ (962.9)	€ (890.8)	€ (419.1)
Borrowings of third-party debt	587.1	1,031.1	359.3
Distributions to VodafoneZiggo Group Holding	(400.0)	(3,436.0)	—
Net cash received (paid) related to derivative instruments	0.9	(158.8)	—
Related-party payments, net	(200.8)	(201.6)	(434.0)
Collection of VAT receivable	—	152.0	—
Payment of financing costs	—	(21.4)	(19.6)
Other financing activities, net	(1.2)	0.4	(4.7)
Net cash used by financing activities	<u>(976.9)</u>	<u>(3,525.1)</u>	<u>(518.1)</u>
Effect of exchange rate changes on cash and cash equivalents and restricted cash	0.4	19.1	0.7
Net decrease in cash and cash equivalents and restricted cash	(35.3)	(2,765.5)	(6.9)
<b>Cash and cash equivalents and restricted cash:</b>			
Beginning of year	276.9	3,042.4	2,995.3
Cash contributed from Vodafone NL upon closing of the JV Transaction	—	—	54.0
End of year	<u>€ 241.6</u>	<u>€ 276.9</u>	<u>€ 3,042.4</u>
Cash paid for third-party interest	<u>€ 484.3</u>	<u>€ 433.4</u>	<u>€ 340.6</u>
Cash paid for related-party interest	<u>€ 101.0</u>	<u>€ 112.6</u>	<u>€ 0.9</u>
Cash refunded for income taxes	<u>€ —</u>	<u>€ —</u>	<u>€ (2.8)</u>
<b>Details of end of period cash and cash equivalents and restricted cash:</b>			
Cash and cash equivalents	€ 239.4	€ 274.5	€ 59.9
Restricted cash (including amounts included in other current assets)	2.2	2.4	2,982.5
Total cash and cash equivalents and restricted cash	<u>€ 241.6</u>	<u>€ 276.9</u>	<u>€ 3,042.4</u>

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

**VODAFONEZIGGO GROUP B.V.**  
**Notes to Consolidated Financial Statements**  
**December 31, 2018, 2017 and 2016**

**(1) Basis of Presentation**

VodafoneZiggo Group B.V. (**VodafoneZiggo**) provides video, broadband internet, fixed-line telephony, and mobile services to residential and business customers in the Netherlands. The primary subsidiaries of **VodafoneZiggo** include (i) Ziggo Holding B.V. and its subsidiaries, including Ziggo Services B.V. (**Ziggo Services**), and (ii) Vodafone Libertel B.V. (**Vodafone NL**). In these notes, the terms “we,” “our,” “our company”, and “us” may refer, as the context requires, to VodafoneZiggo or collectively to VodafoneZiggo and its subsidiaries.

VodafoneZiggo is a wholly-owned subsidiary of VodafoneZiggo Group Holding B.V. (**VodafoneZiggo Group Holding**). VodafoneZiggo Group Holding is a 50:50 joint venture (the **VodafoneZiggo JV**) between Vodafone Group Plc (**Vodafone**) and Liberty Global plc (**Liberty Global**) (each a **Shareholder**).

As a result of closing of the JV Transaction and the formation of the VodafoneZiggo JV, we have a new basis of accounting effective December 31, 2016. In our consolidated financial statements (i) the consolidated balance sheets as of December 31, 2018 and 2017, and consolidated statements of operations, owner’s equity and cash flows for the years ended December 31, 2018 and 2017, are labeled “**Successor**” and reflect the push down of the VodafoneZiggo JV’s basis of accounting and (ii) the consolidated statements of operations, owner’s equity and cash flows for the year ended December 31, 2016 are labeled “**Predecessor**” and reflect the historical accounting basis in the assets and liabilities of Old Ziggo. Our consolidated financial statements and footnotes include a black line division, which appears between the columns titled Successor and Predecessor, that signifies that the amounts shown for the periods following and prior to the JV Transaction are not comparable.

Our functional currency is the euro (€). Unless otherwise indicated, convenience translations into euros are calculated as of December 31, 2018.

These consolidated financial statements reflect our consideration of the accounting and disclosure implications of subsequent events through March 14, 2019, the date of issuance.

**(2) Accounting Changes and Recent Accounting Pronouncements**

*Accounting Changes*

*ASU 2014-09*

In May 2014, the Financial Accounting Standards Board (**FASB**) issued Accounting Standards Update (**ASU**) No. 2014-09, *Revenue from Contracts with Customers* (**ASU 2014-09**), which requires an entity to recognize the amount of revenue to which it expects to be entitled for the transfer of goods or services to customers. We adopted ASU 2014-09 effective January 1, 2018 by recording the cumulative effect of the adoption to our owner’s equity. We applied the new standard to contracts that were not complete at January 1, 2018. The comparative information for the years ended December 31, 2017 and 2016 contained within these consolidated financial statements and notes has not been restated and continues to be reported under the accounting standards in effect for such periods.

The most significant impacts of ASU 2014-09 on our revenue recognition policies relate to our accounting for (i) time-limited discounts and free service periods provided to our customers, (ii) certain upfront fees charged to our customers, (iii) revenue related to mobile handset plans, and (iv) costs incurred to obtain and fulfill contracts, as follows:

- When we enter into contracts to provide services to our customers, we often provide time-limited discounts or free service periods. Under previous accounting standards, we recognized revenue net of discounts during the promotional periods and did not recognize any revenue during free service periods. Under ASU 2014-09, revenue recognition is accelerated for these contracts, as the impact of the discount or free service period is recognized uniformly over the total contractual period.
- When we enter into contracts to provide services to our customers, we often charge installation or other upfront fees. Under previous accounting standards, installation fees related to services provided over our cable networks were recognized as

**VODAFONEZIGGO GROUP B.V.**  
**Notes to Consolidated Financial Statements — (Continued)**  
**December 31, 2018, 2017 and 2016**

revenue during the period in which the installation occurred to the extent these fees were equal to or less than direct selling costs. Under ASU 2014-09, these fees are generally deferred and recognized as revenue over the contractual period.

- Previously, we offered handsets under a subsidized contract model, whereby upfront revenue recognition was limited to the upfront cash collected from the customer, as the remaining monthly fees to be received from the customer, including fees that may be associated with the handset, were contingent upon delivering future airtime. This limitation no longer applies under ASU 2014-09. The primary impact of this change is an increase in revenue allocated to handsets, which is recognized as non-service revenue when control of the device passes to the customer, and a decrease in service revenue.
- ASU 2014-09 also impacts our accounting for certain upfront costs directly associated with obtaining and fulfilling customer contracts. Previously, these costs were expensed as incurred unless the costs were in the scope of another accounting topic that allowed for capitalization. Under ASU 2014-09, certain upfront costs associated with contracts that have substantive termination penalties and a term of one year or more are recognized as assets and amortized to other operating expenses over the applicable period benefited.

For additional information regarding our adoption of ASU 2014-09, see notes 3, 4 and 14.

The cumulative effect of the adoption of ASU 2014-09 on our summary balance sheet information as of January 1, 2018 is as follows:

	<b>Balance at December 31, 2017</b>	<b>ASU 2014-09 Adjustments (a)</b>	<b>Balance at January 1, 2018</b>
	<b>in millions</b>		
<b>Assets:</b>			
Contract assets	€ —	176.8	€ 176.8
Other current assets, net	€ 33.0	65.5	€ 98.5
Long-term contract assets	€ —	75.1	€ 75.1
Other assets, net	€ 49.5	20.2	€ 69.7
<b>Liabilities:</b>			
Deferred revenue and advance payments from subscribers and others	€ 192.2	13.7	€ 205.9
Deferred income taxes	€ 1,385.4	3.1	€ 1,388.5
Other long-term liabilities	€ 697.3	(0.2)	€ 697.1
<b>Owner's equity</b>	<b>€ 5,122.6</b>	<b>321.0</b>	<b>€ 5,443.6</b>

(a) Amounts represent the cumulative effect of the adoption of ASU 2014-09 on our January 1, 2018 balance sheet.

The impact of our adoption of ASU 2014-09 on our consolidated balance sheet as of December 31, 2018 was not materially different from the impacts set forth in the above January 1, 2018 summary balance sheet information. Similarly, the adoption of ASU 2014-09 did not have a material impact on our consolidated statements of operations for the year ended December 31, 2018.

The impact of our adoption of ASU 2014-09 is net of income tax. This impact is immaterial as the tax impact is recognized in a tax return of a fiscal unity of a predecessor.

*ASU 2016-18*

In November 2016, the FASB issued ASU No. 2016-18, *Restricted Cash (ASU 2016-18)*, which requires the change in restricted cash to be included together with the total change in cash and cash equivalents on our consolidated statement of cash flows. We adopted ASU 2016-18 on January 1, 2018 on a retrospective basis and, accordingly, our consolidated statement of cash flows for

**VODAFONEZIGGO GROUP B.V.**  
**Notes to Consolidated Financial Statements — (Continued)**  
**December 31, 2018, 2017 and 2016**

the year ended December 31, 2017 has been adjusted to include our restricted cash, resulting in a €2,995.2 million increase in our net cash used by financing activities related to certain restricted cash that was released from escrow during the period in connection with the formation of VodafoneZiggo.

***Recent Accounting Pronouncements***

*ASU 2016-02*

In February 2016, the FASB issued ASU No. 2016-02, *Leases (ASU 2016-02)*, which, for most leases, will result in lessees recognizing right-of-use assets and lease liabilities on the balance sheet and additional disclosures. ASU 2016-02, as amended by ASU No. 2018-11, *Targeted Improvements*, requires lessees and lessors to recognize and measure leases at the beginning of the earliest period presented using one of two modified retrospective approaches. A number of optional practical expedients may be applied in transition. ASU 2016-02 is effective for annual reporting periods beginning after December 15, 2018, including interim periods within those fiscal years, with early adoption permitted. We will adopt ASU 2016-02 on January 1, 2019 by recording the cumulative effect of adoption to our owner's equity.

The main impact of the adoption of this standard will be the recognition of right-of-use assets and lease liabilities in our consolidated balance sheet for those leases classified as operating leases under previous U.S. GAAP. We will not recognize right-of-use assets or lease liabilities for leases with a term of 12 months or less, as permitted by the short-term lease practical expedient in the standard. We plan to apply the practical expedient that permits a lessee to account for lease and non-lease components in a contract as a single lease component, if the class of asset warrants such treatment, and will be assessed on case to case basis. In transition, we will apply the practical expedients that permit us not to reassess (i) whether expired or existing contracts contain a lease under the new standard, (ii) the lease classification for expired or existing leases or (iii) whether previously-capitalized initial direct costs would qualify for capitalization under the new standard. In addition, we will not use hindsight during transition.

We are in the process of implementing a new lease accounting system and related internal controls to meet the requirements of ASU 2016-02. While we are still evaluating the effect that ASU 2016-02 will have on our consolidated balance sheet, we expect to record significant right-of-use assets and corresponding lease liabilities upon adoption. We do not expect our adoption of ASU 2016-02 will have a material impact on our consolidated statement of operations or cash flows.

For a summary of our undiscounted future minimum lease payments under non-cancellable operating leases as of December 31, 2018, see note 13.

*ASU 2018-15*

In August 2018, the FASB issued ASU No. 2018-15, *Customer's Accounting for Implementation Costs Incurred in a Cloud Computing Arrangement that is a Service Contract (ASU 2018-15)*, which requires entities to defer implementation costs incurred that are related to the application development stage in a cloud computing arrangement that is a service contract. Deferred implementation costs will be amortized over the term of the cloud computing arrangement and presented in the same expense line item as the cloud computing arrangement. All other implementation costs will be expensed as incurred. ASU 2018-15 is effective for annual reporting periods beginning after December 15, 2019, including interim periods within those fiscal years, with early adoption permitted. We are currently evaluating the effect that ASU 2018-15 will have on our consolidated financial statements.

**(3) Summary of Significant Accounting Policies**

***Estimates***

The preparation of financial statements in conformity with U.S. GAAP requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities at the date of the financial statements and the reported amounts of revenue and expenses during the reporting period. Estimates and assumptions are used in accounting for, among other things, the valuation of acquisition-related assets and liabilities, allowances for uncollectible accounts, certain components of revenue, programming and copyright expenses, deferred income taxes and related valuation allowances, loss contingencies, fair value measurements, impairment assessments, capitalization of internal costs associated with construction and installation activities, useful lives of long-lived assets, and share-based compensation. Actual results could differ from those estimates.

**VODAFONEZIGGO GROUP B.V.**  
**Notes to Consolidated Financial Statements — (Continued)**  
**December 31, 2018, 2017 and 2016**

***Reclassifications***

Certain prior year amounts have been reclassified to conform to the current year presentation.

***Principles of Consolidation***

The accompanying consolidated financial statements include our accounts and the accounts of all voting interest entities where we exercise a controlling financial interest through the ownership of a direct or indirect controlling voting interest and variable interest entities for which our company is the primary beneficiary. All significant intercompany accounts and transactions have been eliminated in consolidation.

***Cash and Cash Equivalents and Restricted Cash***

Cash equivalents consist of money market funds and other investments that are readily convertible into cash and have maturities of three months or less at the time of acquisition. We record money market funds at the net asset value as there are no restrictions on our ability, contractual or otherwise, to redeem our investments at the stated net asset value.

Restricted cash consists of cash held in restricted accounts, including cash held as collateral for debt and other compensating balances. Restricted cash amounts that are required to be used to purchase long-term assets or repay long-term debt are classified as long-term assets. All other cash that is restricted to a specific use is classified as current or long-term based on the expected timing of the disbursement.

Our significant non-cash investing and financing activities are disclosed in our consolidated statements of equity and in notes 8, 9 and 11.

***Cash Flow Statement***

For purposes of determining the classification of cash flows in our consolidated statements of cash flows, interest payments or receipts for related-party loans are included as cash flows from operating activities. Interest-bearing cash advances to related parties and repayments thereof are classified as investing activities. All other related-party borrowings, advances, and repayments are reflected as financing activities.

For purposes of our consolidated statements of cash flows, expenses financed by an intermediary are treated as hypothetical operating cash outflows and hypothetical financing cash inflows when the expenses are incurred. When we pay the financing to an intermediary, we record financing cash outflows in our consolidated statements of cash flows.

From time to time, we issue debt for which the proceeds are included in escrow. We reflect these transactions as non-cash financings in our consolidated financial statements.

***Trade Receivables***

Our trade receivables are reported net of an allowance for doubtful accounts. Such allowance aggregated €30.6 million and €46.0 million at December 31, 2018 and 2017, respectively. The January 1, 2018 adoption of ASU 2014-09 did not change the balance of our allowance for doubtful accounts. The allowance for doubtful accounts is based upon our assessment of probable loss related to uncollectible accounts receivable. We use a number of factors in determining the allowance, including, among other things, collection trends, prevailing and anticipated economic conditions, and specific customer credit risk. The allowance is maintained until either payment is received or the likelihood of collection is considered to be remote.

Concentration of credit risk with respect to trade receivables is limited due to the large number of customers. We also manage this risk by disconnecting services to customers whose accounts are delinquent.

**VODAFONEZIGGO GROUP B.V.**  
**Notes to Consolidated Financial Statements — (Continued)**  
**December 31, 2018, 2017 and 2016**

***Financial Instruments***

Due to the short maturities of cash and cash equivalents, restricted cash, trade and other receivables, other current assets, accounts payable, accrued liabilities and other accrued and current liabilities, their respective carrying values approximate their respective fair values. For information concerning the fair values of certain of our derivatives and debt, see notes 6 and 9, respectively. For information regarding how we arrive at certain of our fair value measurements, see note 7.

***Inventory Held for Sale***

Inventory held for sale consists mainly of handsets and accessories, and are stated at the lower of cost or net realizable value. Inventory held for sale is net of a provision for obsolete items, which was €2.9 million and €3.5 million at December 31, 2018 and 2017, respectively.

***Derivative Instruments***

All derivative instruments are recorded on the balance sheet at fair value. As we generally do not apply hedge accounting to any of our derivative instruments, the changes in the fair value of our derivative instrument are recognized in earnings.

The net cash received or paid related to our derivative instruments is classified as an operating, investing or financing activity in our consolidated statements of cash flows based on the objective of the derivative instrument and the classification of the applicable underlying cash flows. For derivative contracts that are terminated prior to maturity, the cash paid or received upon termination that relates to future periods is classified as a financing activity in our consolidated statements of cash flows.

For information regarding our derivative instruments, see note 6.

***Property and Equipment***

Property and equipment are stated at cost less accumulated depreciation. We capitalize costs associated with the construction of new cable and mobile transmission and distribution facilities and the installation of new cable services. Capitalized construction and installation costs include materials, labor, and other directly attributable costs. Installation activities that are capitalized include (i) the initial connection (or drop) from our cable system to a customer location, (ii) the replacement of a drop, and (iii) the installation of equipment for additional services, such as digital cable, telephone or broadband internet service. The costs of other customer-facing activities, such as reconnecting and disconnecting customer locations and repairing or maintaining drops, are expensed as incurred. Interest capitalized with respect to construction activities was not material during any of the periods presented.

Capitalized internal-use software is included as a component of property and equipment. We capitalize internal and external costs directly associated with the development of internal-use software. We also capitalize costs associated with the purchase of software licenses. Maintenance and training costs, as well as costs incurred during the preliminary stage of an internal-use software development project, are expensed as incurred.

Depreciation is computed using the straight-line method over the estimated useful life of the underlying asset. Equipment under capital leases is amortized on a straight-line basis over the shorter of the lease term or estimated useful life of the asset. Useful lives used to depreciate our property and equipment are assessed periodically and are adjusted when warranted. The useful lives of cable and mobile distribution systems that are undergoing a rebuild are adjusted such that property and equipment to be retired will be fully depreciated by the time the rebuild is completed. For additional information regarding the useful lives of our property and equipment, see note 8.

Additions, replacements, and improvements that extend the asset life are capitalized. Repairs and maintenance are charged to operations.

We recognize a liability for asset retirement obligations in the period in which it is incurred if sufficient information is available to make a reasonable estimate of fair values. Asset retirement obligations may arise from the loss of rights of way that we obtain from local municipalities or other relevant authorities. Under certain circumstances, the authorities could require us to remove our network equipment from an area if, for example, we were to discontinue using the equipment for an extended period of time or the authorities were to decide not to renew our access rights. However, because the rights of way are integral to our ability to

**VODAFONEZIGGO GROUP B.V.**  
**Notes to Consolidated Financial Statements — (Continued)**  
**December 31, 2018, 2017 and 2016**

deliver broadband communications services to our customers, we expect to conduct our business in a manner that will allow us to maintain these rights for the foreseeable future. In addition, we have no reason to believe that the authorities will not renew our rights of way and, historically, renewals have been granted. We also have obligations in lease agreements to restore the property to its original condition or remove our property at the end of the lease term. Sufficient information is not available to estimate the fair value of our asset retirement obligations in certain of our lease arrangements. This is the case for long-term lease arrangements in which the underlying leased property is integral to our operations, there is not an acceptable alternative to the leased property and we have the ability to indefinitely renew the lease. Accordingly, for most of our rights of way and certain lease agreements, the possibility is remote that we will incur significant removal costs in the foreseeable future and, as such, we do not have sufficient information to make a reasonable estimate of fair value for these asset retirement obligations.

As of December 31, 2018 and 2017, the recorded value of our asset retirement obligations was €17.2 million and €27.1 million, respectively.

***Intangible Assets***

Our primary intangible assets relate to goodwill, customer relationships and, following the closing of the JV Transaction, mobile spectrum licenses. Our goodwill represents the equity of the VodafoneZiggo JV contributed businesses in excess of the fair value of our net identifiable assets and liabilities and the excess purchase price over the fair value of the identifiable net assets acquired in a business combination. Customer relationships are initially recorded at their fair values in connection with business combinations and subsequently at cost less accumulated amortization and impairments, if any. Upon closing the JV Transaction, our licenses were recorded at their fair value and subsequent to the closing of the JV Transaction, we record licenses at costs less accumulated amortization and impairments, if any.

Goodwill is not amortized, but instead is tested for impairment at least annually. Intangible assets with finite lives are amortized on a straight-line basis over their respective estimated useful lives to their estimated residual values and reviewed for impairment.

For additional information regarding the useful lives of our intangible assets, see note 8.

***Impairment of Property and Equipment and Intangible Assets***

When circumstances warrant, we review the carrying amounts of our property and equipment and our intangible assets (other than goodwill) to determine whether such carrying amounts continue to be recoverable. Such changes in circumstance may include (i) an expectation of a sale or disposal of a long-lived asset or asset group, (ii) adverse changes in market or competitive conditions, (iii) an adverse change in legal factors or business climate in the market in which we operate, and (iv) operating or cash flow losses. For purposes of impairment testing, long-lived assets are grouped at the lowest level for which cash flows are largely independent of other assets and liabilities, generally at or below the reporting unit level (see below). If the carrying amount of the asset or asset group is greater than the expected undiscounted cash flows to be generated by such asset or asset group, an impairment adjustment is recognized. Such adjustment is measured by the amount that the carrying value of such asset or asset group exceeds its fair value. We generally measure fair value by considering (a) sale prices for similar assets, (b) discounted estimated future cash flows using an appropriate discount rate and/or (c) estimated replacement cost. Assets to be disposed of are recorded at the lower of their carrying amount or fair value less costs to sell.

We evaluate goodwill for impairment at least annually on October 1 and whenever facts and circumstances indicate that their carrying amounts may not be recoverable. For impairment evaluations with respect to goodwill, we first make a qualitative assessment to determine if the goodwill may be impaired. If it is more-likely-than-not that the reporting unit's fair value is less than its carrying value, we then compare the fair value of the reporting unit to its respective carrying amount. Any excess of the carrying amount over the fair value would be charged to operations as an impairment loss. A reporting unit is an operating segment or one level below an operating segment (referred to as a "component"). We have identified one reporting unit to which all goodwill is assigned.

***Income Taxes***

Income taxes are accounted for under the asset and liability method. We recognize deferred tax assets and liabilities for the future tax consequences attributable to differences between the financial statement carrying amounts and income tax basis of assets and liabilities, and the expected benefits of utilizing net operating loss and tax credit carryforwards using enacted tax rates in effect

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for each taxing jurisdiction in which we operate for the year in which those temporary differences are expected to be recovered or settled. We recognize the financial statement effects of a tax position when it is more-likely-than-not, based on technical merits, that the position will be sustained upon examination. Net deferred tax assets are then reduced by a valuation allowance if we believe it is more-likely-than-not such net deferred tax assets will not be realized. The effect on deferred tax assets and liabilities of a change in tax rates is recognized in earnings in the period that includes the enactment date. Interest and penalties related to income tax liabilities are included in income tax expense.

Upon closing of the JV Transaction, VodafoneZiggo Group Holding together with VodafoneZiggo and its subsidiaries, formed a new fiscal unity (the **VodafoneZiggo Fiscal Unity**). The VodafoneZiggo Fiscal Unity is one taxpayer for the period of time subsequent to the closing of the JV Transaction. Related-party tax allocations to our company from VodafoneZiggo Group Holding are not subject to tax-sharing agreements, and no cash payments will be made between VodafoneZiggo and VodafoneZiggo Group Holding related to the Dutch tax attributes. Accordingly, related-party tax allocations will be reflected as adjustments in our consolidated statements of owner's equity. For additional information regarding potential changes in Dutch tax law that may impact the VodafoneZiggo Fiscal Unity, see note 10.

***Multiemployer Benefit Plans***

We are a party to multiemployer benefit plans and we recognize the required contribution paid or payable for these plans during the period as net postretirement benefit costs.

***Foreign Currency Transactions***

Transactions denominated in currencies other than our functional currency are recorded based on exchange rates at the time such transactions arise. Changes in exchange rates with respect to amounts recorded in our consolidated balance sheets related to these non-functional currency transactions result in transaction gains and losses that are reflected in our consolidated statements of operations as unrealized (based on the applicable period end exchange rates) or realized upon settlement of the transactions.

***Revenue Recognition***

ASU 2014-09 requires the identification of deliverables in contracts with customers that qualify as performance obligations. The transaction price receivable from customers is allocated between our performance obligations under contracts on a relative stand-alone selling price basis. Our revenue recognition and certain other accounting policies, as revised to reflect the impacts of our adoption of ASU 2014-09, are set forth below.

*Subscription Revenue — Cable Networks.* We recognize revenue from the provision of video, broadband internet and fixed-line telephony services over our cable network to customers over time in the periods the related services are provided, with the exception of revenue recognized pursuant to certain contracts that contain promotional discounts, as described below. Installation fees related to services provided over our cable network are generally deferred and recognized as revenue over the contractual period.

*Sale of Multiple Products and Services.* We sell video, broadband internet, fixed-line telephony and mobile services and handsets to our customers in bundled packages at a rate lower than if the customer purchased each product on a stand-alone basis. Revenue from bundled packages generally is allocated proportionally to the individual products or services based on the relative stand-alone selling price for each respective product or service.

*Mobile Revenue — General.* Consideration from mobile contracts is allocated to the airtime service component and the handset component based on the relative stand-alone selling prices of each component. Offers for handsets and airtime services in separate contracts entered into at the same time are accounted for as a single contract.

*Mobile Revenue — Airtime Services.* We recognize revenue from mobile services over time in the periods the related services are provided. Revenue from pre-pay customers is deferred prior to the commencement of services and recognized as the services are rendered or usage rights expire.

*Mobile Revenue — Handset Revenue.* Arrangement consideration allocated to handsets is recognized as revenue at the point in time in which the goods have been transferred to the customer. Mobile handset contracts that permit the customer to take control

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of the handset upfront and pay for the handset in installments over a contractual period may contain a significant financing component. For contracts with terms of one year or more, we recognize the significant financing component as revenue over the contractual period using the effective interest method.

*B2B Cable Revenue.* We defer upfront installation and certain nonrecurring fees received on B2B contracts where we maintain ownership of the installed equipment. The deferred fees are amortized into revenue on a straight-line basis over the term of the arrangement or the expected period of performance.

*Contract Costs.* Incremental costs to obtain a contract with a customer, such as incremental sales commissions, are generally recognized as assets and amortized over the applicable period benefited, which generally is the contract life, to (i) SG&A expenses or (ii) in the case of commissions earned on devices sold through indirect channels, against service revenue. If, however, the amortization period is less than one year, we expense such costs in the period incurred.

Contract fulfillment costs are recognized as assets and amortized to other operating costs over the applicable period benefited, which is generally the substantive contract term for the related service contract. Installation activities are not considered to be contract fulfillment costs. Instead, installation costs are capitalized, where applicable, under existing industry guidance for cable entities.

*Promotional Discounts.* For subscriber promotions, such as discounted or free services during an introductory period, revenue is recognized uniformly over the contractual period if the contract has substantive termination penalties. For subscriber promotions offered for longer than an introductory period, we allocate discounts over the related performance obligations and the related period of delivery.

*Subscriber Advance Payments and Deposits.* Payments received in advance for the services we provide are deferred and recognized as revenue when the associated services are provided.

*Sales, Use, and Other Value-Added Taxes.* Revenue is recorded net of applicable sales, use, and other value-added taxes.

For a summary of our revenue disaggregated by major category, see note 14.

### ***Litigation Costs***

Legal fees and related litigation costs are expensed as incurred.

## **(4) Revenue Recognition and Related Costs**

### ***Contract Balances***

If we transfer goods or services to a customer but do not have an unconditional right to payment, we record a contract asset. Contract assets typically arise from the uniform recognition of introductory promotional discounts or the delivery of a handset that is paid for over the duration of the contract period. Our contract assets were €224.8 million and €251.9 million as of December 31, 2018 and January 1, 2018, respectively.

We record deferred revenue when we receive payment prior to transferring goods or services to a customer. We primarily defer revenue for (i) installation and other upfront services and (ii) other services that are invoiced prior to when services are provided. Our deferred revenue balances were €181.0 million and €177.6 million as of December 31, 2018 and January 1, 2018, respectively. The current and long-term portions of our deferred revenue balance at December 31, 2018 are included within deferred revenue and advance payment from subscribers and others and other long-term liabilities, respectively, in our consolidated balance sheet.

### ***Contract Costs***

Our aggregate assets associated with incremental costs to obtain a contract and contract fulfillment costs were €85.1 million and €85.8 million at December 31, 2018 and January 1, 2018, respectively. The current and long-term portions of our assets related to contract costs at December 31, 2018 are included within other current assets, net and other assets, net, respectively, in our

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consolidated balance sheet. We recorded amortization of €92.2 million during year ended December 31, 2018, related to these assets, included in programming and other direct costs of service expenses and other operating expenses.

***Unsatisfied Performance Obligations***

A large portion of our revenue is derived from customers who are not subject to contracts. Revenue from customers who are subject to contracts will be recognized over the term of such contracts, which is generally 12 or 24 months for our residential service and mobile contracts and one to five years for our B2B contracts.

**(5) JV Transaction**

***Overview***

On February 15, 2016, Liberty Global Europe Holding B.V. (**Liberty Global Europe**), a corporation organized under the laws of the Netherlands and a wholly-owned subsidiary of Liberty Global, and Vodafone International Holdings B.V., a corporation organized under the laws of the Netherlands and a wholly-owned subsidiary of Vodafone, agreed to form the VodafoneZiggo JV pursuant to a Contribution and Transfer Agreement (the **Contribution Agreement**). On December 31, 2016, the formation of the VodafoneZiggo JV was completed (the **JV Transaction**) pursuant to which (i) VodafoneZiggo Group Holding became 50% owned by each of Liberty Global and Vodafone, (ii) VodafoneZiggo and its subsidiaries were contributed into the VodafoneZiggo JV and became wholly-owned by VodafoneZiggo Group Holding, and (iii) Vodafone NL and its subsidiaries were contributed into the VodafoneZiggo JV and became wholly-owned by VodafoneZiggo.

***Shareholders Agreement***

In connection with the JV Transaction, on December 31, 2016, Liberty Global and Vodafone entered into a shareholders agreement (the **Shareholders Agreement**) with VodafoneZiggo Group Holding in respect of the VodafoneZiggo JV. Each of Liberty Global and Vodafone (each a **Shareholder**) holds 50% of the issued share capital of VodafoneZiggo Group Holding. The Shareholders Agreement contains customary provisions for the governance of a 50:50 joint venture that result in Liberty Global and Vodafone having joint control over decision making with respect to the VodafoneZiggo JV.

The Shareholders Agreement also provides (i) for a dividend policy that requires the VodafoneZiggo JV to distribute all unrestricted cash to the Shareholders as soon as reasonably practicable following each two month period (subject to the VodafoneZiggo JV maintaining a minimum amount of cash and complying with the terms of financing arrangements of its subsidiaries) and (ii) that the VodafoneZiggo JV will be managed with a leverage ratio of between 4.5 and 5.0 times Covenant EBITDA (as calculated pursuant to existing financing arrangements of its subsidiaries) with the VodafoneZiggo JV undertaking periodic recapitalizations and/or refinancings accordingly.

Each Shareholder has the right to initiate an initial public offering (**IPO**) of the VodafoneZiggo JV after the third anniversary of the closing, with the opportunity for the other Shareholder to sell shares in the IPO on a pro rata basis. Subject to certain exceptions, the Shareholders Agreement prohibits transfers of interests in the VodafoneZiggo JV to third parties until the fourth anniversary of the closing. After the fourth anniversary, each Shareholder will be able to initiate a sale of all of its interest in the VodafoneZiggo JV to a third party and, under certain circumstances, initiate a sale of the entire VodafoneZiggo JV; subject, in each case, to a right of first offer in favor of the other Shareholder.

***Framework and Trade Mark Agreements***

Pursuant to a framework and a trade name agreement (collectively, the **JV Service Agreements**) entered into in connection with the formation of the VodafoneZiggo JV, Liberty Global and Vodafone will charge us fees for certain services to be provided to us by the respective subsidiaries of the Shareholders (collectively, the **JV Services**). The JV Services will be provided to us on a transitional or ongoing basis. Pursuant to the terms of the JV Service Agreements, the ongoing services will be provided for a period of four to six years depending on the type of service, while transitional services may be terminated by either party, subject to specified notice periods. The JV Services provided by the respective subsidiaries of the Shareholders consist primarily of (i) technology and other services, (ii) capital-related expenditures for assets that we will use or will otherwise benefit us, and (iii) brand name and procurement fees. The fees that Liberty Global and Vodafone will charge us for the JV Services will include both fixed and usage-based fees. The following table sets forth fixed minimum charges from Liberty Global and Vodafone pursuant to the JV Service Agreements.

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	Year ended December 31,					
	2019	2020	2021	2022	2023	Thereafter
	in millions					
<b>Charges from Liberty Global:</b>						
Operating (a)	€ 71.6	€ 56.8	€ 48.1	€ 47.8	€ —	€ —
Capital (b)	20.7	17.3	14.4	14.4	—	—
Total Liberty Global corporate recharges	<u>€ 92.3</u>	<u>€ 74.1</u>	<u>€ 62.5</u>	<u>€ 62.2</u>	<u>€ —</u>	<u>€ —</u>
<b>Charges from Vodafone:</b>						
Operating, net (a)	€ 34.0	€ 31.5	€ 14.6	€ 14.5	€ —	€ —
Capital (b)	10.2	8.5	4.3	4.2	—	—
Brand fees (c)	30.0	30.0	30.0	30.0	30.0	60.0
Other non-operating	3.5	3.1	0.4	0.4	—	—
Total Vodafone corporate recharges	<u>€ 77.7</u>	<u>€ 73.1</u>	<u>€ 49.3</u>	<u>€ 49.1</u>	<u>€ 30.0</u>	<u>€ 60.0</u>
Total (d)	<u>€ 170.0</u>	<u>€ 147.2</u>	<u>€ 111.8</u>	<u>€ 111.3</u>	<u>€ 30.0</u>	<u>€ 60.0</u>

- (a) Represents amounts charged for technology and other services. These charges are included in the calculation of Covenant EBITDA.
- (b) Represents amounts charged for capital expenditures made by Liberty Global or Vodafone related to assets that we use or otherwise benefit us. These charges will not be included in the calculation of Covenant EBITDA.
- (c) Represents amounts charged for our use of the Vodafone brand name. This charge is not included in the calculation of Covenant EBITDA.
- (d) In addition to the fixed minimum charges, the JV Service Agreements provide for certain JV Services to be charged to us based upon usage of the services received. The fixed minimum charges set forth in the table above exclude fees for the usage-based services as these fees will vary from period to period. Accordingly, we expect to incur charges in addition to those set forth in the table above for usage-based services.

***Pro Forma Information***

On an unaudited pro forma basis that gives effect to the formation of the VodafoneZiggo JV as if it had been completed on January 1, 2015, our 2016 revenue and net loss would have been €4,172.9 million and €377.2 million, respectively. These pro forma amounts are not necessarily indicative of the operating results that would have occurred if this transaction had occurred on such date. The pro forma adjustments are based on certain assumptions that we believe are reasonable.

Our consolidated statement of operations for 2016 does not include revenue or net loss attributable to Vodafone NL as it did not become a wholly-owned subsidiary until December 31, 2016.

**(6) Derivative Instruments**

In general, we seek to enter into derivative instruments to protect against (i) increases in the interest rates on our variable-rate debt and (ii) foreign currency movements with respect to borrowings that are denominated in a currency other than our functional currency. In this regard, we have entered into various derivative instruments to manage interest rate exposure and foreign currency exposure with respect to the United States (U.S.) dollar.

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The following table provides details of the fair values of our derivative instrument assets and liabilities:

	December 31, 2018			December 31, 2017		
	Current	Long-term (a)	Total	Current	Long-term (a)	Total
	in millions					
<b>Assets:</b>						
Cross-currency and interest rate derivative contracts (b)	€ 74.1	€ 73.4	€ 147.5	€ 45.9	€ 23.0	€ 68.9
Foreign currency forward contracts	0.4	—	0.4	—	—	—
<b>Total</b>	€ 74.5	€ 73.4	€ 147.9	€ 45.9	€ 23.0	€ 68.9
<b>Liabilities:</b>						
Cross-currency and interest rate derivative contracts (b)	€ 71.9	€ 395.2	€ 467.1	€ 65.2	€ 615.6	€ 680.8
Foreign currency forward contracts	—	—	—	0.2	0.1	0.3
<b>Total</b>	€ 71.9	€ 395.2	€ 467.1	€ 65.4	€ 615.7	€ 681.1

- (a) Our long-term derivative assets and liabilities are included in other assets, net, and other long-term liabilities, respectively, in our consolidated balance sheets.
- (b) We consider credit risk relating to our and our counterparties' nonperformance in the fair value assessment of our derivative instruments. In all cases, the adjustments take into account offsetting liability or asset positions. The changes in the credit risk valuation adjustments associated with our cross-currency and interest rate derivative contracts resulted in net gains of €0.5 million and €63.8 million during the years ended December 31, 2018 and 2017, respectively. These amounts are included in realized and unrealized gains (losses) on derivative instruments, net, in our consolidated statements of operations. For further information regarding our fair value measurements, see note 7.

The details of our realized and unrealized gains (losses) on derivative instruments, net, are as follows:

	Successor Year ended December 31,		Predecessor Year ended December 31,
	2018	2017	2016
	in millions		
Cross-currency and interest rate derivative contracts	€ 292.4	€ (635.5)	€ (134.2)
Foreign currency forward contracts	3.4	(1.5)	—
<b>Total</b>	€ 295.8	€ (637.0)	€ (134.2)

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The net cash received or paid related to our derivative instruments is classified as an operating, investing or financing activity in our consolidated statements of cash flows based on the objective of the derivative instrument and the classification of the applicable underlying cash flows. For derivative contracts that are terminated prior to maturity, the cash paid or received upon termination that relates to future periods is classified as a financing activity. The classification of these net cash inflows (outflows) is as follows:

	<b>Successor</b>		<b>Predecessor</b>
	<b>Year ended</b>		<b>Year ended</b>
	<b>December 31,</b>		<b>December 31,</b>
	<b>2018</b>	<b>2017</b>	<b>2016</b>
	<b>in millions</b>		<b>in millions</b>
Operating activities	€ 1.9	€ (18.7)	€ (58.8)
Financing activities	0.9	(158.8)	—
<b>Total</b>	<b>€ 2.8</b>	<b>€ (177.5)</b>	<b>€ (58.8)</b>

***Counterparty Credit Risk***

We are exposed to the risk that the counterparties to our derivative instruments will default on their obligations to us. We manage these credit risks through the evaluation and monitoring of the creditworthiness of and concentration of risk with the respective counterparties. In this regard, credit risk associated with our derivative instruments is spread across a relatively broad counterparty base of banks and financial institutions. Collateral is generally not posted by either party under our derivative instruments. At December 31, 2018, our exposure to counterparty credit risk included derivative assets with an aggregate fair value of €9.5million.

We have entered into derivative instruments under master agreements with each counterparty that contain master netting arrangements that are applicable in the event of early termination by either party to such derivative instrument. The master netting arrangements under each of these master agreements are limited to the derivative instruments governed by the relevant master agreement and are independent of similar arrangements.

Under our derivative contracts, it is generally only the non-defaulting party that has a contractual option to exercise early termination rights upon the default of the other counterparty and to set off other liabilities against sums due upon such termination. However, in an insolvency of a derivative counterparty, under the laws of certain jurisdictions, the defaulting counterparty or its insolvency representatives may be able to compel the termination of one or more derivative contracts and trigger early termination payment liabilities payable by us, reflecting any mark-to-market value of the contracts for the counterparty. Alternatively, or in addition, the insolvency laws of certain jurisdictions may require the mandatory set off of amounts due under such derivative contracts against present and future liabilities owed to us under other contracts between us and the relevant counterparty. Accordingly, it is possible that we may be subject to obligations to make payments, or may have present or future liabilities owed to us partially or fully discharged by set off as a result of such obligations, in the event of the insolvency of a derivative counterparty, even though it is the counterparty that is in default and not us. To the extent that we are required to make such payments, our ability to do so will depend on our liquidity and capital resources at the time. In an insolvency of a defaulting counterparty, we will be an unsecured creditor in respect of any amount owed to us by the defaulting counterparty, except to the extent of the value of any collateral we have obtained from that counterparty.

In addition, where a counterparty is in financial difficulty, under the laws of certain jurisdictions, the relevant regulators may be able to (i) compel the termination of one or more derivative instruments, determine the settlement amount and/or compel, without any payment, the partial or full discharge of liabilities arising from such early termination that are payable by the relevant counterparty or (ii) transfer the derivative instruments to an alternative counterparty.

**Details of our Derivative Instruments**

In the following tables, we present the details of the various categories of our derivative instruments, which are held by our wholly-owned subsidiary, Amsterdamse Beheer-en Consultingmaatschappij BV (**ABC B.V.**). The notional amounts of multiple derivative instruments that mature within the same calendar month are shown in the aggregate and interest rates are presented on

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a weighted average basis. In addition, for derivative instruments that were in effect as of December 31, 2018, we present a single date that represents the applicable final maturity date. For derivative instruments that become effective subsequent to December 31, 2018, we present a range of dates that represents the period covered by the applicable derivative instruments.

***Cross-currency and Interest Rate Derivative Contracts***

*Cross-currency Swaps*

As noted above, we are exposed to foreign currency exchange rate risk in situations where our debt is denominated in a currency other than our functional currency. Although we generally seek to match the denomination of our and our subsidiaries' borrowings with our functional currency, market conditions or other factors may cause us to enter into borrowing arrangements that are not denominated in our functional currency (unmatched debt). Our policy is generally to provide for an economic hedge against foreign currency exchange rate movements by using derivative instruments to synthetically convert unmatched debt into the applicable underlying currency. At December 31, 2018, substantially all of our debt was either directly or synthetically matched to our functional currency. The weighted average remaining contractual life of our cross-currency swap contracts at December 31, 2018 was 6.0 years.

The terms of our outstanding cross-currency swap contracts at December 31, 2018, which are held by ABC B.V., are as follows:

Final maturity date	Notional amount due from counterparty (a)	Notional amount due to counterparty	Interest rate due from counterparty	Interest rate due to counterparty
in millions				
January 2025	\$ 4,625.0	€ 4,087.3	3.19%	2.41%
April 2025	\$ 2,050.0	€ 1,581.0	6 mo. LIBOR + 2.50%	4.14%
April 2025	\$ 475.0	€ 442.4	6 mo. LIBOR + 2.50%	6 mo. EURIBOR + 2.43%
January 2023	\$ 400.0	€ 339.0	5.88%	4.58%
	<u>\$ 7,550.0</u>	<u>€ 6,449.7</u>		

- (a) Includes certain derivative instruments that do not involve the exchange of notional amounts at the inception and maturity of the instruments. Accordingly, the only cash flows associated with these derivative instruments are interest-related payments and receipts. At December 31, 2018, the total euro equivalent of the notional amounts of these derivative instruments was €1,746.5 million.

*Interest Rate Swaps*

As noted above, we enter into interest rate swaps to protect against increases in the interest rates on our variable-rate debt. Pursuant to these derivative instruments, we typically pay fixed interest rates and receive variable interest rates on specified notional amounts. At December 31, 2018, the related weighted average remaining contractual life of our interest rate swap contracts was 6.3 years.

The terms of our outstanding interest rate swap contracts at December 31, 2018, which are held by ABC B.V., are as follows:

Final maturity date	Notional amount	Interest rate due from counterparty	Interest rate due to counterparty
in millions			
April 2025	€ 2,692.4	6 mo. EURIBOR	1.67%

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*Basis Swaps*

Our basis swaps involve the exchange of attributes used to calculate our floating interest rates, including (i) the benchmark rate, (ii) the underlying currency, and/or (iii) the borrowing period. We typically enter into these swaps to optimize our interest rate profile based on our current evaluations of yield curves, our risk management policies and other factors. At December 31, 2018, the euro equivalent of the notional amount due from the counterparty was €2,715.8 million and the related weighted average remaining contractual life of our interest basis swap contracts was 0.7 years.

The terms of our outstanding basis swap contracts at December 31, 2018, which are held by ABC B.V., are as follows:

Final maturity date	Notional amount in millions	Interest rate due from counterparty	Interest rate due to counterparty
October 2019	\$ 2,525.0	1 mo. LIBOR + 2.50%	6 mo. LIBOR + 2.36%
April 2019	\$ 585.0	1 mo. LIBOR + 2.50%	6 mo. LIBOR + 2.33%

***Impact of Derivative Instruments on Borrowing Costs***

The impact of the derivative instruments that mitigate our foreign currency and interest rate risk, as described above, was a decrease of 15 basis points to our borrowing costs as of December 31, 2018.

***Foreign Currency Forwards***

We enter into foreign currency forward contracts with respect to non-functional currency exposure. At December 31, 2018, the euro equivalent of the notional amount of our foreign currency forward contracts was €10.6 million.

The following table summarizes our outstanding foreign currency forward contracts at December 31, 2018, which are held by ABC B.V.:

Currency purchased forward	Currency sold forward	Maturity dates
in millions		
\$ 12.1	€ 10.1	January 2019 - December 2019

**(7) Fair Value Measurements**

We use the fair value method to account for our derivative instruments. The reported fair values of these derivative instruments as of December 31, 2018, likely will not represent the value that will be paid or received upon the ultimate settlement or disposition of these assets and liabilities. We expect that the values realized generally will be based on market conditions at the time of settlement, which may occur at the maturity of the derivative instrument or at the time of the repayment or refinancing of the underlying debt instrument.

U.S. GAAP provides for a fair value hierarchy that prioritizes the inputs to valuation techniques used to measure fair value into three broad levels. Level 1 inputs are quoted market prices in active markets for identical assets or liabilities that the reporting entity has the ability to access at the measurement date. Level 2 inputs are inputs other than quoted market prices included within Level 1 that are observable for the asset or liability, either directly or indirectly. Level 3 inputs are unobservable inputs for the asset or liability. We record transfers of assets or liabilities into or out of Levels 1, 2 or 3 at the beginning of the quarter during which the transfer occurred. During 2018, no such transfers were made.

All of our Level 2 inputs (interest rate futures and swap rates) and certain of our Level 3 inputs (credit spreads) are obtained from pricing services. These inputs, or interpolations or extrapolations thereof, are used in our internal models to calculate, among

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other items, yield curves and forward interest and currency rates. In the normal course of business, we receive market value assessments from the counterparties to our derivative contracts. Although we compare these assessments to our internal valuations and investigate unexpected differences, we do not otherwise rely on counterparty quotes to determine the fair values of our derivative instruments. The midpoints of applicable bid and ask ranges generally are used as inputs for our internal valuations.

In order to manage our interest rate and foreign currency exchange risk, we have entered into various derivative instruments as further described in note 6. The recurring fair value measurements of these instruments are determined using discounted cash flow models. Most of the inputs to these discounted cash flow models consist of, or are derived from, observable Level 2 data for substantially the full term of these instruments. This observable data mostly includes interest rate futures and swap rates, which are retrieved or derived from available market data. Although we may extrapolate or interpolate this data, we do not otherwise alter this data in performing our valuations. We use a Monte Carlo based approach to incorporate a credit risk valuation adjustment in our fair value measurements to estimate the impact of both our own nonperformance risk and the nonperformance risk of our counterparties. Our and our counterparties' credit spreads represent our most significant Level 3 inputs, and these inputs are used to derive the credit risk valuation adjustments with respect to these instruments. As we would not expect changes in our or our counterparties' credit spreads to have a significant impact on the valuations of these instruments, we have determined that these valuations fall under Level 2 of the fair value hierarchy. Our credit risk valuation adjustments with respect to our cross-currency and interest rate swaps are quantified and further explained in note 6.

Fair value measurements are also used in connection with nonrecurring valuations performed in connection with impairment assessments and acquisition accounting. During 2018 and 2017, we did not perform significant nonrecurring fair value measurements.

**(8) Long-lived Assets**

***Property and Equipment, Net***

The details of our property and equipment and the related accumulated depreciation are set forth below:

	Estimated useful life at December 31, 2018	December 31,	
		2018	2017
in millions			
Distribution systems	4 to 30 years	€ 5,226.7	€ 4,791.7
Customer premises equipment	3 to 5 years	753.0	566.1
Support equipment, buildings and land	3 to 25 years	1,129.9	931.6
		7,109.6	6,289.4
Accumulated depreciation		(1,788.7)	(857.7)
Total property and equipment, net		€ 5,320.9	€ 5,431.7

Depreciation expense related to our property and equipment was €934.6 million, €864.2 million and €529.8 million during 2018, 2017 and 2016, respectively.

During 2018, 2017 and 2016, we recorded non-cash increases to our property and equipment related to vendor financing arrangements of €572.7 million, €330.6 million and €179.7 million, respectively, which exclude related VAT of €45.3 million, €13.5 million and €20.1 million, respectively, that was also financed by our vendors under these arrangements.

All of the support equipment, buildings and land is pledged as security under our various debt instruments. For additional information, see note 9.

During 2018, 2017 and 2016, we recorded impairment charges of €1.9 million, €2.7 million and €1.1 million, respectively. These amounts were primarily related to tangible assets.

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***Goodwill***

Our goodwill represents the equity of the VodafoneZiggo JV contributed businesses in excess of the fair value of our net identifiable assets and liabilities. There was no change in the carrying amount of our goodwill during 2018. During 2017, the carrying amount of our goodwill increased by €65.1 million due to acquisition-related adjustments in connection with the final valuation of the JV Transaction.

Our mobile and fixed-line operations are experiencing significant competition. In particular, our mobile operations continue to experience pressure on pricing, characterized by aggressive promotion campaigns, heavy marketing spend and increasing our unlimited data bundles. In light of these factors, as well as regulatory and economic factors, we could conclude in future periods that an impairment of goodwill and, to a lesser extent, long-lived assets, is required. Any such impairment of goodwill or long-lived assets could be significant.

***Intangible Assets Subject to Amortization, Net***

The details of our intangible assets subject to amortization are set forth below:

	December 31, 2018			December 31, 2017		
	Gross carrying amount	Accumulated amortization	Net carrying amount	Gross carrying amount	Accumulated amortization	Net carrying amount
	in millions					
Customer relationships (a)	€ 6,440.0	€ (1,039.8)	€ 5,400.2	€ 6,440.0	€ (519.9)	€ 5,920.1
Licenses (b)	1,078.9	(173.4)	905.5	1,078.9	(86.7)	992.2
Trade name (c)	270.0	(21.6)	248.4	270.0	(10.8)	259.2
Total	€ 7,788.9	€ (1,234.8)	€ 6,554.1	€ 7,788.9	€ (617.4)	€ 7,171.5

- (a) The weighted average useful life of our customer relationships was approximately 15 years as of December 31, 2018.
- (b) Represents primarily mobile spectrum licenses associated with the mobile operations of Vodafone NL. The weighted average useful life of our licenses was approximately 13 years as of December 31, 2018.
- (c) Represents the Ziggo trade name. In connection with the fair value assessment of our assets and liabilities upon closing of the JV Transaction, we concluded that the Ziggo trade name has an estimated useful life of 25 years.

Amortization expense related to intangible assets with finite useful lives was €617.4 million, €621.9 million and €387.6 million during 2018, 2017 and 2016, respectively. Based on our amortizable intangible asset balances at December 31, 2018, we expect that amortization expense will be as follows for the next five years and thereafter (in millions):

2019	€ 614.9
2020	607.4
2021	605.9
2022	601.5
2023	601.5
Thereafter	3,522.9
Total	€ 6,554.1

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**(9) Debt and Capital Lease Obligations**

The euro equivalents of the components of our third-party debt are as follows:

	December 31, 2018		Principal amount	
	Weighted average interest rate (a)	Unused borrowing capacity (b)	December 31, 2018	December 31, 2017
			in millions	
Subsidiaries:				
Senior and Senior Secured Notes (c)	5.27% €	— €	5,431.4 €	814.8
Credit Facilities	3.99%	800.0	4,455.0	4,350.4
SPE Notes (c)	—	—	—	4,491.3
Vendor financing (d)	1.93%	—	999.3	750.4
Total principal amount of third-party debt before premiums, discounts and deferred financing costs (e)	4.44% €	800.0 €	10,885.7 €	10,406.9

- (a) Represents the weighted average interest rate in effect at December 31, 2018 for all borrowings outstanding pursuant to each debt instrument, including any applicable margin. The interest rates presented represent stated rates and do not include the impact of derivative instruments, deferred financing costs, original issue premiums or discounts and commitment fees, all of which affect our overall cost of borrowing. Including the effects of derivative instruments, original issue premiums or discounts and commitment fees, but excluding the impact of deferred financing costs, the weighted average interest rate on our aggregate third-party variable- and fixed-rate indebtedness was 4.4% and 4.5% at December 31, 2018 and 2017, respectively. For information regarding our derivative instruments, see note 6.
- (b) Unused borrowing capacity represents the maximum availability under the Credit Facilities at December 31, 2018 without regard to covenant compliance calculations or other conditions precedent to borrowing. At December 31, 2018, based on the most restrictive applicable leverage covenants and leverage-based restricted payment tests, the full €800.0 million of unused borrowing capacity was available to be borrowed and there were no restrictions on our ability to make loans or distributions from this availability. Upon completion of the relevant December 31, 2018 compliance reporting requirements and based on the most restrictive applicable leverage covenants and leverage-based restricted payment tests, without considering any actual or potential changes to our borrowing levels or any amounts loaned or distributed subsequent to December 31, 2018, we expect that the full amount of unused borrowing capacity will continue to be available to be borrowed and that there will be no restrictions with respect to loans or distributions from this availability.
- (c) Ziggo B.V. and Ziggo Bond Company B.V. (**Ziggo Bondco**) are each wholly-owned subsidiaries of VodafoneZiggo. Pursuant to a series of mergers and transactions that were completed during the three months ended March 31, 2018, (i) Ziggo B.V. assumed (a) the 2025 Senior Secured Notes, (b) the 2027 Dollar Senior Secured Notes, and (c) the 2027 Euro Senior Secured Notes and released Ziggo Secured Finance B.V. from its obligations under such senior secured notes and (ii) Ziggo Bondco assumed (1) the 2025 Euro Senior Notes, (2) the 2025 Dollar Senior Notes, and (3) the 2027 Senior Notes, and released Ziggo Bond Finance B.V. from its obligations under such senior notes. Each of these assumptions and releases has been deemed repayment in full and cancellation of the relevant Proceeds Loans that were created in connection with the issuance of the aforementioned senior and senior secured notes. For a simplified corporate structure chart that gives effect to the completion of the aforementioned mergers and transactions, see the Appendix.
- (d) Represents amounts owed pursuant to interest-bearing vendor financing arrangements that are primarily used to finance certain of our property and equipment additions and, to a lesser extent, certain of our operating expenses. These obligations are generally due within one year and include VAT that was paid on our behalf by the vendor. Repayments of vendor financing obligations are included in repayments of third-party debt and capital lease obligations in our consolidated statements of cash flows.

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- (e) At each of December 31, 2018 and 2017, our debt had an estimated fair value of €10.5 billion. The estimated fair values of our debt instruments are generally determined using the average of applicable bid and ask prices (mostly Level 1 of the fair value hierarchy) or, when quoted market prices are unavailable or not considered indicative of fair value, discounted cash flow models (mostly Level 2 of the fair value hierarchy). The discount rates used in the cash flow models are based on the market interest rates and estimated credit spreads, to the extent available, and other relevant factors. For additional information regarding fair value hierarchies, see note 7.

The following table provides a reconciliation of total third-party debt before premiums, discounts, and deferred financing costs to total debt and capital lease obligations:

	<b>December 31,</b>	<b>December 31,</b>
	<b>2018</b>	<b>2017</b>
	<b>in millions</b>	
Total principal amount of third-party debt before premiums, discounts and deferred financing costs	€ 10,885.7	€ 10,406.9
Premiums, discounts and deferred financing costs, net	47.7	61.9
Total carrying amount of third-party debt	10,933.4	10,468.8
Third-party capital lease obligations	18.5	—
Total third-party debt and capital lease obligations	10,951.9	10,468.8
Related-party debt and capital lease obligations (note 11)	1,600.2	1,801.0
Total debt and capital lease obligations	12,552.1	12,269.8
Current maturities of debt and capital lease obligations	(1,205.9)	(951.2)
Long-term debt and capital lease obligations	€ 11,346.2	€ 11,318.6

*Credit Facilities.* We have entered into one credit facilities agreement with certain financial institutions (the **credit facilities**). Our credit facilities contain certain covenants, the more notable of which are as follows:

- Our credit facilities contain certain consolidated net leverage ratios, as specified in the relevant credit facility, which are required to be complied with (i) on an incurrence basis and/or (ii) when the associated revolving credit facility has been drawn beyond a specified percentage of the total available revolving credit commitments, on a maintenance basis;
- Subject to certain customary and agreed exceptions, our credit facilities contain certain restrictions which, among other things, restrict the ability of certain of our subsidiaries to (i) incur or guarantee certain financial indebtedness, (ii) make certain disposals and acquisitions, (iii) create certain security interests over their assets, and (iv) make certain restricted payments to their direct and/or indirect parent companies through dividends, loans or other distributions;
- Our credit facilities require that certain of our subsidiaries (i) guarantee the payment of all sums payable under the relevant credit facility and (ii) grant first-ranking security over substantially all of their assets to secure the payment of all sums payable thereunder;
- In addition to certain mandatory prepayment events, the instructing group of lenders under the credit facilities may, under certain circumstances, cancel the commitments thereunder and declare the loans thereunder due and payable after the applicable notice period following the occurrence of a change of control (as specified in the credit facilities);
- Our credit facilities contain certain customary events of default, the occurrence of which, subject to certain exceptions, materiality qualifications and cure rights, would allow the instructing group of lenders to (i) cancel the total commitments, (ii) declare that all or part of the loans be payable on demand, and/or (iii) accelerate all outstanding loans and terminate their commitments thereunder;
- Our credit facilities require that we observe certain affirmative and negative undertakings and covenants, which are subject to certain materiality qualifications and other customary and agreed exceptions; and

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- In addition to customary default provisions, our credit facilities include cross-acceleration provisions with respect to our other indebtedness, subject to agreed minimum thresholds and other customary and agreed exceptions.

*Senior and Senior Secured Notes.* Ziggo Bondco and Ziggo B.V. have issued certain senior and senior secured notes, respectively. Ziggo B.V. is a wholly-owned subsidiary of Ziggo Bondco, which is a wholly-owned subsidiary of Ziggo Holding. In general, our senior and senior secured notes are senior obligations of the issuer of such notes that rank equally with all of the existing and future senior debt of such issuer and are senior to all existing and future subordinated debt of such issuer. Our senior secured notes (i) contain certain guarantees from other subsidiaries of VodafoneZiggo (as specified in the applicable indenture) and (ii) are secured by certain pledges or liens over certain assets and/or shares of certain subsidiaries of VodafoneZiggo. In addition, the indentures governing our senior and senior secured notes contain certain covenants, the more notable of which are as follows:

- Subject to certain materiality qualifications and other customary and agreed exceptions, our notes contain (i) certain customary incurrence-based covenants and (ii) certain restrictions that, among other things, restrict the ability of certain of our subsidiaries to (a) incur or guarantee certain financial indebtedness, (b) make certain disposals and acquisitions, (c) create certain security interests over their assets, and (d) make certain restricted payments to their direct and/or indirect parent companies through dividends, loans or other distributions;
- Our notes provide that any failure to pay principal after the expiration of any applicable grace period, or any acceleration with respect to other indebtedness of the issuer or certain of our subsidiaries over agreed minimum thresholds (as specified under the applicable indenture), is an event of default under the respective notes;
- If the relevant issuer or certain of its subsidiaries (as specified in the applicable indenture) sell certain assets, such issuer must, subject to certain materiality qualifications and other customary and agreed exceptions, offer to repurchase the applicable notes at par, or if a change of control (as specified in the applicable indenture) occurs, such issuer must offer to repurchase all of the relevant notes at a redemption price of 101%; and
- Our senior secured notes contain certain early redemption provisions including, for certain senior secured notes, the ability to, during each 12-month period commencing on the issue date for such notes until the applicable call date, redeem up to 10% of the original principal amount of the notes at a redemption price equal to 103% of the principal amount of the notes to be redeemed plus accrued and unpaid interest.

***Credit Facilities***

The Credit Facilities are the senior secured credit facilities of certain subsidiaries of VodafoneZiggo. The details of our borrowings under the Credit Facilities as of December 31, 2018 are summarized in the following table:

Credit Facility	Maturity	Interest rate	Facility amount (in borrowing currency) (a)	Outstanding principal amount	Unused borrowing capacity (f)	Carrying value (b)
in millions						
Facility E (c)	April 15, 2025	LIBOR + 2.50%	\$ 2,525.0	€ 2,205.0	€ —	€ 2,207.2
Facility F (d)	April 15, 2025	EURIBOR + 3.00%	€ 2,250.0	2,250.0	—	2,252.7
Revolving Facility (f)	December 31, 2022	(e)	€ 800.0	—	800.0	—
Total				€ 4,455.0	€ 800.0	€ 4,459.9

(a) Amounts represent total third-party facility amounts as of December 31, 2018.

(b) Amounts are net of unamortized premiums, discounts, and deferred financing costs, as applicable.

(c) Facility E has a LIBOR floor of 0.0%.

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- (d) Facility F has a EURIBOR floor of 0.0%.
- (e) The Revolving Facility bears interest at EURIBOR plus 2.75% (subject to a margin ratchet) and has a fee on unused commitments of 40% of such margin per year.
- (f) Unused borrowing capacity represents the maximum availability under the Credit Facilities at December 31, 2018 without regard to covenant compliance calculations or other conditions precedent to borrowing. At December 31, 2018, based on the most restrictive applicable leverage covenants and leverage-based restricted payment tests, the full €800.0 million of unused borrowing capacity was available to be borrowed and there were no restrictions on our ability to make loans or distributions from this availability. Upon completion of the relevant December 31, 2018 compliance reporting requirements and based on the most restrictive applicable leverage covenants and leverage-based restricted payment tests, without considering any actual or potential changes to our borrowing levels or any amounts loaned or distributed subsequent to December 31, 2018, we expect that the full amount of unused borrowing capacity will continue to be available to be borrowed and that there will be no restrictions with respect to loans or distributions from this availability.

***Refinancing Transactions***

*2018 Refinancing Transactions.* There were no refinancing transactions during 2018.

*2017 and 2016 Refinancing Transactions.* During 2017 and 2016, we completed certain refinancing transactions that resulted in a gain (loss) on debt modification and extinguishment, net, of €15.2 million and (€14.3 million), respectively. These amounts include the write-off of (i) €21.6 million of unamortized premiums and €11.4 million of unamortized discounts, respectively, and (ii) €6.4 million and €2.9 million, respectively, of deferred financing costs.

***Senior and Senior Secured Notes***

The details of the Senior and Senior Secured Notes as of December 31, 2018 are summarized in the following table:

Senior and Senior Secured Notes	Maturity	Interest rate	Outstanding principal amount		
			Borrowing currency	Euro equivalent	Carrying value (a)
				in millions	
2020 Euro Senior Secured Notes	March 27, 2020	3.625%	€ 71.7	€ 71.7	€ 72.9
2024 Euro Senior Notes	May 15, 2024	7.125%	€ 743.1	743.1	822.1
2025 Senior Secured Notes	January 15, 2025	3.750%	€ 800.0	800.0	810.1
2025 Euro Senior Notes	January 15, 2025	4.625%	€ 400.0	400.0	408.2
2025 Dollar Senior Notes	January 15, 2025	5.875%	\$ 400.0	349.3	348.3
2027 Dollar Senior Secured Notes	January 15, 2027	5.500%	\$ 2,000.0	1,746.5	1,711.5
2027 Euro Senior Secured Notes	January 15, 2027	4.250%	€ 775.0	775.0	776.6
2027 Senior Notes	January 15, 2027	6.000%	\$ 625.0	545.8	533.1
Total				€ 5,431.4	€ 5,482.8

- (a) Amounts include the impact of premiums.

The 2020 Euro Senior Secured Notes are non-callable. At any time prior to maturity, Ziggo B.V. may redeem some or all of the 2020 Euro Senior Secured Notes by paying a “make-whole” premium, which is the greater of 1% of the principal amount of the note and the excess of (i) the present value at the redemption date of (a) the principal amount of the note on the redemption date plus (b) all required remaining scheduled interest payments due through the redemption date, computed using the discount rate (as

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specified in the applicable indenture) as of the redemption date plus 50 basis points over (ii) the principal amount of the note at the redemption date.

The remainder of our notes are non-callable prior to the applicable Call Date presented in the table below. At any time prior to the applicable Call Date, we may redeem some or all of the applicable notes by paying a “make-whole” premium, which is the present value of all remaining scheduled interest payments to the applicable Call Date using the discount rate as of the redemption date plus a premium (each as specified in the applicable indenture).

<b>Senior and Senior Secured Notes</b>	<b>Call Date</b>
2024 Euro Senior Notes	May 15, 2019
2025 Senior Secured Notes	January 15, 2020
2025 Euro Senior Notes	January 15, 2020
2025 Dollar Senior Notes	January 15, 2020
2027 Dollar Senior Secured Notes	January 15, 2022
2027 Euro Senior Secured Notes	January 15, 2022
2027 Senior Notes	January 15, 2022

After the applicable Call Date, we may redeem some or all of these notes at the following redemption prices (expressed as a percentage of the principal amount) plus accrued and unpaid interest and additional amounts (as specified in the applicable indenture), if any, to the applicable redemption date, as set forth below:

	<b>Redemption price</b>						
	<b>2024 Euro Senior Notes</b>	<b>2025 Dollar Senior Notes</b>	<b>2025 Euro Senior Notes</b>	<b>2025 Senior Secured Notes</b>	<b>2027 Dollar Senior Secured Notes</b>	<b>2027 Euro Senior Secured Notes</b>	<b>2027 Senior Notes</b>
12-month period commencing	May 15	January 15	January 15	January 15	January 15	January 15	January 15
2019	103.563%	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
2020	102.375%	102.938%	102.313%	101.875%	N.A.	N.A.	N.A.
2021	101.188%	101.958%	101.542%	101.250%	N.A.	N.A.	N.A.
2022	100.000%	100.979%	100.771%	100.625%	102.750%	102.125%	103.000%
2023	100.000%	100.000%	100.000%	100.000%	101.833%	101.417%	102.000%
2024	N.A.	100.000%	100.000%	100.000%	100.917%	100.708%	101.000%
2025 and thereafter	N.A.	N.A.	N.A.	N.A.	100.000%	100.000%	100.000%

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***Maturities of Debt and Capital Lease Obligations***

The euro equivalents of the maturities of our debt and capital lease obligations as of December 31, 2018 are presented below:

*Debt:*

	<u>Third-party</u>	<u>Related-party</u>	<u>Total</u>
	<b>in millions</b>		
<b>Year ending December 31:</b>			
2019	€ 999.3	€ 200.0	€ 1,199.3
2020	71.7	—	71.7
2021	—	—	—
2022	—	—	—
2023	—	—	—
Thereafter	9,814.7	1,400.0	11,214.7
Total debt maturities	10,885.7	1,600.0	12,485.7
Premiums, discounts and deferred financing costs, net	47.7	—	47.7
Total debt	<u>€ 10,933.4</u>	<u>€ 1,600.0</u>	<u>€ 12,533.4</u>
Current portion	<u>€ 999.3</u>	<u>€ 200.0</u>	<u>€ 1,199.3</u>
Noncurrent portion	<u>€ 9,934.1</u>	<u>€ 1,400.0</u>	<u>€ 11,334.1</u>

*Capital lease obligations:*

	<u>Third-party</u>	<u>Related-party</u>	<u>Total</u>
	<b>in millions</b>		
<b>Year ending December 31:</b>			
2019	€ 6.8	€ 0.2	€ 7.0
2020	5.5	—	5.5
2021	3.6	—	3.6
2022	2.0	—	2.0
2023	0.8	—	0.8
Thereafter	0.2	—	0.2
Total principal and interest payments	18.9	0.2	19.1
Amounts representing interest	(0.4)	—	(0.4)
Present value of net minimum lease payments	<u>€ 18.5</u>	<u>€ 0.2</u>	<u>€ 18.7</u>
Current portion	<u>€ 6.4</u>	<u>€ 0.2</u>	<u>€ 6.6</u>
Noncurrent portion	<u>€ 12.1</u>	<u>€ —</u>	<u>€ 12.1</u>

**(10) Income Taxes**

Our consolidated financial statements include the income taxes of all entities wholly owned by VodafoneZiggo Group Holding.

The VodafoneZiggo Fiscal Unity is one taxpayer for the period of time subsequent to the closing of the JV Transaction. VodafoneZiggo Group Holding did not implement a tax-sharing agreements and no cash payments will be made between VodafoneZiggo entities and VodafoneZiggo Group Holding related to the Dutch tax attributes. Accordingly, related-party tax allocations, if any, are reflected as adjustments in our consolidated statement of owner's equity.

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On February 22, 2018, the European Court of Justice ruled that certain aspects of the Dutch fiscal unity regime violate the EU freedom of establishment. In June 2018, the State Secretary for Finance of the Netherlands submitted a bill to the House of Representatives of the Netherlands containing certain emergency remedial measures that would adjust the fiscal unity regime. On November 2, 2018, the Netherlands tax authority announced that the effective date for the remedial measures will be January 1, 2018. In the absence of further guidance and regulation, the impact of this ruling and the submitted bill is unclear at this point. However, we currently do not expect that this ruling and the submitted bill should materially impact our effective tax rate.

On December 18, 2018 the Dutch Government enacted legislation regarding the yearly changes to the tax legislation (i.e., “Belastingplan 2019”). One of the most important changes within these legislative plans of the government has been a decrease in the corporate income tax rate. The highest tax rate in the Netherlands will be reduced from 25% to 22.55% in 2020 and from 22.55% to 20.50% in 2021. As a result of the enactment of these plans VodafoneZiggo recalculated the deferred balances and recorded a corporate income tax rate change benefit as a result of the decrease of the net deferred tax liability in the last quarter of 2018.

All of our income tax benefit for 2018, 2017 and 2016 is related to deferred tax benefits.

Income tax benefit attributable to our loss before income taxes differs from the amounts computed using the Dutch income tax rate of 25.0% as a result of the following:

	<b>Successor</b>		<b>Predecessor</b>
	<b>Year ended</b>		<b>Year ended</b>
	<b>December 31,</b>		<b>December 31,</b>
	<b>2018</b>	<b>2017</b>	<b>2016</b>
	<b>in millions</b>		<b>in millions</b>
Computed "expected" tax benefit	€ 98.9	€ 80.4	€ 156.9
Enacted tax law and rate changes	213.8	—	—
Tax benefits associated with technology innovations	6.0	13.0	71.0
Change in valuation allowances	0.1	—	(37.8)
Basis and other differences in the treatment of items associated with investment in subsidiaries and affiliated	—	—	10.3
Non-deductible or non-taxable interest and other expenses	(1.1)	(1.8)	(17.4)
Other, net	0.7	0.1	—
<b>Total income tax benefit</b>	<b>€ 318.4</b>	<b>€ 91.7</b>	<b>€ 183.0</b>

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The tax effects of temporary differences that give rise to significant portions of the deferred tax assets and deferred tax liabilities are presented below:

	<b>December 31,</b>	
	<b>2018</b>	<b>2017</b>
	<b>in millions</b>	
<b>Deferred tax assets:</b>		
Derivative instruments	€ 11.3	€ 184.9
Net operating loss and other carry forwards	94.6	107.7
Investments	18.4	22.0
Other future deductible amounts	10.9	17.9
Debt	74.5	—
Deferred tax assets	<u>209.7</u>	<u>332.5</u>
<b>Deferred tax liabilities:</b>		
Intangible assets	(1,060.2)	(1,371.9)
Property and equipment, net	(216.8)	(275.0)
Debt	—	(65.7)
Other future taxable amounts	(2.9)	(5.3)
Deferred tax liabilities	<u>(1,279.9)</u>	<u>(1,717.9)</u>
Net deferred tax liabilities	<u>€ (1,070.2)</u>	<u>€ (1,385.4)</u>

Although we intend to take reasonable tax planning measures to limit our tax exposures, no assurance can be given that we will be able to do so.

All of our net operating losses and other carryforwards are Dutch. The details of our tax loss carryforwards and related tax assets at December 31, 2018 are as follows:

<b>Expiration Date</b>	<b>Tax loss carryforward</b>	<b>Related tax asset</b>
	<b>in millions</b>	
2020	42.3	8.8
2021	14.1	2.9
2022	64.6	13.5
2024	30.4	6.3
2026	265.5	55.3
2027	37.6	7.8
Total carried forward	<u>454.5</u>	<u>94.6</u>

We and our subsidiaries file one consolidated income tax return. In the normal course of business, our income tax filings are subject to review by the Dutch tax authority. In connection with such review, disputes could arise with the tax authority over the interpretation or application of certain income tax rules related to our business in that tax jurisdiction. Such disputes may result in future tax and interest and penalty assessments by the tax authority. The ultimate resolution of tax contingencies will take place upon the earlier of (i) the settlement date with the tax authority in either cash or agreement of income tax positions or (ii) the date when the tax authority is statutorily prohibited from adjusting the company's tax computations.

There were no material unrecognized tax benefits during 2018, 2017 or 2016.

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**(11) Related-party Transactions**

***Successor Period***

Our related-party transactions for the Successor periods are as follows:

	<b>Year ended</b>	
	<b>December 31,</b>	
	<b>2018</b>	<b>2017</b>
	<b>in millions</b>	
Revenue	€ 41.0	€ 46.1
Programming and other direct costs of services	(41.7)	(39.8)
Share-based compensation expense	(2.8)	(5.3)
<b>Charges for JV Services:</b>		
Charges from Liberty Global:		
Operating (a)	(79.9)	(94.1)
Capital (b)	(31.0)	(32.3)
Total Liberty Global corporate recharges	(110.9)	(126.4)
Charges from Vodafone:		
Operating, net (a)	(86.8)	(87.2)
Brand fees (c)	(30.0)	(30.0)
Total Vodafone corporate recharges	(116.8)	(117.2)
Total charges for JV Services	(227.7)	(243.6)
Included in operating loss	(231.2)	(242.6)
Interest expense	(101.0)	(112.6)
Included in net loss	€ (332.2)	€ (355.2)
Property and equipment additions, net	€ 160.5	€ 257.7

- (a) Represents amounts to be charged for technology and other services. These charges are included in the calculation of Covenant EBITDA, as defined and described below.
- (b) Represents amounts to be charged for capital expenditures to be made by Liberty Global related to assets that we use or will otherwise benefit our company. These charges are not included in the calculation of Covenant EBITDA.
- (c) Represents amounts charged for our use of the Vodafone brand name. These charges are not included in the calculation of Covenant EBITDA.

*Revenue.* Amounts represent charges for certain personnel services provided to Vodafone and Liberty Global subsidiaries.

*Programming and other direct costs of services.* Amounts represent interconnect fees charged to us by certain subsidiaries of Vodafone.

*Share-based compensation expense.* Amounts relate to charges to our company by Liberty Global and Vodafone for share-based incentive awards held by certain employees of our subsidiaries associated with ordinary shares of Liberty Global and Vodafone. Share-based compensation expense is included within SG&A in our consolidated statements of operations.

*Charges for JV Services - Framework and Trade Mark Agreements*

Pursuant to a framework and a trade name agreement (collectively, the **JV Service Agreements**) entered into in connection with the formation of the VodafoneZiggo JV, Liberty Global and Vodafone charge us fees for certain services provided to us by the respective subsidiaries of the Shareholders (collectively, the **JV Services**). The JV Services are provided to us on a transitional

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or ongoing basis. Pursuant to the terms of the JV Service Agreements, the ongoing services will be provided for a period of four to six years depending on the type of service, while transitional services will be provided for a period of not less than 12 months after which the Shareholders or VodafoneZiggo will be entitled to terminate based on specified notice periods. The JV Services provided by the respective subsidiaries of the Shareholders consist primarily of (i) technology and other services, (ii) capital-related expenditures for assets that we use or otherwise benefit us, and (iii) brand name and procurement fees. The fees that Liberty Global and Vodafone charge us for the JV Services, as set forth in the table above, include both fixed and usage-based fees.

*Interest expense.* Amount relates to the Liberty Global Note and the Vodafone Note, as defined and described below.

*Property and equipment additions, net.* These amounts, which are cash settled, represent customer premises and network-related equipment acquired from certain Liberty Global and Vodafone subsidiaries, which subsidiaries centrally procure equipment on behalf of our company.

***Predecessor Period***

Prior to the closing of the JV Transaction, certain Liberty Global subsidiaries charged fees and allocated costs and expenses to our company, as further described below. Upon closing of the JV Transaction, the fees and allocated costs and expenses have been replaced by fees for the JV Services pursuant to the JV Service Agreements, as described above. The discussion set forth below provides descriptions of our related-party transactions during the Predecessor period prior to the closing of the JV Transaction.

Our related-party transactions for the Predecessor period are as follows:

	<b>Year ended December 31, 2016</b>
	<b>in millions</b>
Revenue	€ 2.9
Programming and other direct costs of services	(12.6)
Other operating	(4.0)
SG&A expenses	(0.5)
Allocated share-based compensation expense included in SG&A expenses	(8.8)
Fees and allocations:	
Operating and SG&A related (exclusive of depreciation and share-based compensation)	(73.3)
Depreciation	(50.7)
Share-based compensation	(19.5)
Management fee	(89.6)
Total fees and allocations	(233.1)
Included in operating income	(256.1)
Interest expense	(163.8)
Interest income	—
Related-party allocation of current tax benefit	—
Included in net loss	€ (419.9)
Property and equipment additions, net	€ 153.0

*General.* Prior to the closing of the JV Transaction, certain Liberty Global subsidiaries charged fees and allocated costs and expenses to our company. Depending on the nature of these related-party transactions, the amount of the charges or allocations were based on (i) our estimated share of the underlying costs, (ii) our estimated share of the underlying costs plus a mark-up or (iii) commercially-negotiated rates.

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During the first quarter of 2015, Liberty Global transferred certain entities that incur central and other administrative costs (the **Corporate Entities Transfer**) from one subsidiary to certain other Liberty Global subsidiaries that were outside of Liberty Global's borrowing groups. In connection with the Corporate Entities Transfer, Liberty Global changed the processes it used to charge fees and allocate costs and expenses from one subsidiary to another. This methodology, which was intended to ensure that Liberty Global continued to allocate its central and administrative costs to its borrowing groups on a fair and rational basis, impacted the calculation of the "EBITDA" metric specified by our debt agreements (**Covenant EBITDA**). In this regard, the components of related-party fees and allocations that were deducted to arrive at our Covenant EBITDA were based on (i) the amount and nature of costs incurred by the allocating Liberty Global subsidiaries during the period, (ii) the allocation methodologies in effect during the period, and (iii) the size of the overall pool of entities that were charged fees and allocated costs. Prior to the closing of the JV Transaction, we were charged a fee of €543.0 million, net of tax of €181.0 million, by Liberty Global to terminate the agreement governing these related-party fees and allocations. This fee is reflected as a non-cash distribution in our consolidated statement of owner's equity. The obligation related to this fee was converted to equity and is reflected as a non-cash increase to owner's equity in our consolidated statement of owner's equity. In addition, a subsidiary of Liberty Global paid VAT associated with this fee of €152.0 million on our behalf, which is reflected as a contribution in our consolidated statement of owner's equity and is included in VAT receivable, net in our consolidated balance sheet. Subsequent to December 31, 2016, we received the outstanding balance of this VAT receivable from the Dutch tax authority, which we then distributed to Liberty Global and Vodafone in accordance with the terms of the Shareholders Agreement.

*Revenue.* Amount represents charges for certain commercial telephony services provided to certain Liberty Global subsidiaries and affiliates.

*Programming and other direct costs of services.* Amount consists of charges for certain backbone and other services provided to our company by Liberty Global subsidiaries.

*Other operating.* Amount represents certain cash-settled charges from Liberty Global subsidiaries to our company, primarily related to customer premises equipment, backbone and other network-related services and outsourced labor and professional services provided to our company. Such amount consists of (i) charges of €3.0 million for certain customer premises equipment, backbone and other network-related services provided to our company and (ii) charges of €1.0 million largely for outsourced labor and professional services provided to our company.

*SG&A expenses.* Amount consists primarily of charges for information technology-related and other services provided to our company by certain Liberty Global subsidiaries.

*Allocated share-based compensation expense.* Amount represents charges that were allocated to our company by Liberty Global associated with the Liberty Global share-based incentive awards held by certain employees of our subsidiaries.

*Fees and allocations.* These amounts represent fees charged to our company that originated with Liberty Global and certain of its subsidiaries, and include charges for management, finance, legal, technology, marketing and other services that support our company's operations. These charges were generally cash or loan settled. The categories of our fees and allocations are as follows:

- *Operating and SG&A related (exclusive of depreciation and share-based compensation).* The amount included in this category, which was generally cash settled, represents our estimated share of certain centralized technology, management, marketing, finance and other operating and SG&A expenses of Liberty Global's European operations, whose activities benefited multiple operations, including operations within and outside of our company. The amount allocated represents our estimated share of the actual costs incurred by Liberty Global's European operations, without a mark-up.
- *Depreciation.* The amount included in this category, which was generally cash settled, represents our estimated share of depreciation of assets not owned by our company. The amount allocated represents our estimated share of the actual costs incurred by Liberty Global's European operations, without a mark-up.
- *Share-based compensation.* The amount included in this category, which was generally loan settled, represents our estimated share of share-based compensation associated with Liberty Global employees who were not employees of our company. The amount allocated represents our estimated share of the actual costs incurred by Liberty Global's European operations, without a mark-up.

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- *Management fee.* The amount included in this category, which was generally loan settled, represent our estimated allocable share of (i) operating and SG&A expenses related to stewardship services provided by certain Liberty Global subsidiaries and (ii) the mark-up, if any, applicable to each category of the related-party fees and allocations charged to our company.

During 2016, a subsidiary of Liberty Global charged our company technology-based fees using a royalty-based method. During 2016, our proportional share of the technology-based costs of €163.4 million approximated this royalty-based fee.

*Interest expense.* Amount primarily relates to (i) interest on a note payable to Liberty Global Europe, which was converted to equity during the fourth quarter of 2016, and (ii) the Liberty Global Broadband Note, as defined and described below.

*Interest income.* Amount primarily relates to the UPC Western Europe Loan Receivable and the UPC Broadband Loan Receivable.

*Related-party allocation of current tax benefit (expense).* Amount represents related-party tax allocations from certain Liberty Global Holding subsidiaries within the Liberty Global Holding Dutch Fiscal Unity. For additional information, see note 10.

*Property and equipment additions, net.* This amount, which was generally cash settled, represents the net carrying values of (i) customer premises and network-related equipment acquired from certain Liberty Global subsidiaries, which subsidiaries centrally procured equipment on behalf of our company, and (ii) used equipment transferred to certain Liberty Global subsidiaries outside of Old Ziggo.

The following table provides details of our related-party balances:

	<b>December 31,</b>	
	<b>2018</b>	<b>2017</b>
	<b>in millions</b>	
<b>Assets:</b>		
Related-party receivables (a)	€ 18.1	€ 20.6
<b>Liabilities:</b>		
Accounts payable (b)	€ 102.5	€ 106.2
Accrued and other current liabilities (b)	2.4	11.5
<b>Debt (c):</b>		
Liberty Global Note	800.0	900.0
Vodafone Note	800.0	900.0
Capital lease obligations	0.2	1.0
<b>Total liabilities</b>	<b>€ 1,705.1</b>	<b>€ 1,918.7</b>

- (a) Represents non-interest bearing receivables from certain Liberty Global and Vodafone subsidiaries.
- (b) Represents non-interest bearing payables, accrued capital expenditures and other accrued liabilities related to transactions with certain Liberty Global and Vodafone subsidiaries that are cash settled.
- (c) Represents debt obligations, as further described below.

***Related-party Debt***

*Liberty Global Note*

The Liberty Global Note is a note payable to a subsidiary of Liberty Global that matures on January 16, 2028 and has a fixed interest rate of 5.55%. Interest is payable in a manner mutually agreed upon by VodafoneZiggo and Liberty Global. During the

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years ended December 31, 2018 and 2017, interest accrued on the Liberty Global Note was €50.5 million and €56.3 million respectively, all of which was cash settled. The decrease in the principal balance during 2018 and 2017 is the result of €100.0 million of cash payments for each period.

*Vodafone Note*

The Vodafone Note is a note payable to a subsidiary of Vodafone that matures on January 16, 2028 and has a fixed interest rate of 5.55%. Interest is payable in a manner mutually agreed upon by VodafoneZiggo and Vodafone. During the years ended December 31, 2018 and 2017, interest accrued on the Vodafone Note was €50.5 million and €56.3 million respectively, all of which was cash settled. The decrease in the principal balance during 2018 and 2017 is the result of €100.0 million of cash payments for each period.

**Other**

In accordance with the dividend policy prescribed in the Shareholders Agreement, VodafoneZiggo made total dividend distributions of €400.0 million and €592.0 million during 2018 and 2017, respectively, to VodafoneZiggo Group Holding who ultimately distributed 50% of these amounts to each of Liberty Global and Vodafone. These distributions are reflected as a decrease to owner's equity in our consolidated statements of owner's equity.

During 2016, we recorded aggregate capital charges of €3.9 million, in our consolidated statements of owner's equity in connection with the exercise of Liberty Global share appreciation rights and the vesting of Liberty Global restricted share awards held by certain employees of our subsidiaries. These capital charges were based on the fair value of the underlying Liberty Global shares associated with share-based incentive awards that vested or were exercised during the period, subject to any reduction that was necessary to ensure that the capital charge did not exceed the amount of share-based compensation expense recorded by our company with respect to Liberty Global share-based incentive awards.

During 2016, we distributed to Liberty Global Europe €42.5 million representing deferred tax assets resulting from net operating losses of Ziggo Services. This distribution is reflected as a decrease in our consolidated statement of owner's equity.

**(12) Restructuring Liabilities**

A summary of the changes to our restructuring liability during 2018 is set forth in the table below:

	<b>Employee severance and termination</b>	<b>Office closures</b>	<b>Total</b>
	<b>in millions</b>		
<b>Successor:</b>			
Restructuring liability as of January 1, 2018	€ 15.5	€ 0.5	€ 16.0
Restructuring charges (a)	36.5	—	36.5
Cash paid	(37.5)	(0.1)	(37.6)
Other	(0.7)	(0.1)	(0.8)
Restructuring liability as of December 31, 2018	<u>€ 13.8</u>	<u>€ 0.3</u>	<u>€ 14.1</u>
Current portion	€ 12.4	€ 0.3	€ 12.7
Noncurrent portion	1.4	—	1.4
Total	<u>€ 13.8</u>	<u>€ 0.3</u>	<u>€ 14.1</u>

(a) Restructuring charges primarily relate to certain reorganization and integration activities related to the formation of the VodafoneZiggo JV.

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Additional restructuring charges are expected for 2019, due to ongoing reorganization activities associated with the closing of the JV Transaction.

A summary of the changes to our restructuring liability during 2017 is set forth in the table below:

	<b>Employee severance and termination</b>	<b>Office closures</b>	<b>Total</b>
	<b>in millions</b>		
<b>Successor:</b>			
Restructuring liability as of January 1, 2017	€ 30.7	€ 0.5	€ 31.2
Restructuring charges (a)	10.8	—	10.8
Cash paid	(25.3)	—	(25.3)
Other	(0.7)	—	(0.7)
Restructuring liability as of December 31, 2017	<u>€ 15.5</u>	<u>€ 0.5</u>	<u>€ 16.0</u>
Current portion	€ 14.5	€ 0.5	€ 15.0
Noncurrent portion	1.0	—	1.0
Total	<u>€ 15.5</u>	<u>€ 0.5</u>	<u>€ 16.0</u>

- (a) Restructuring charges primarily relate to certain reorganization and integration activities related to the formation of the VodafoneZiggo JV.

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A summary of the changes to our restructuring liability during 2016 is set forth in the table below:

	<u>Employee severance and termination</u>	<u>Office closures</u>	<u>Contract termination and other</u>	<u>Total</u>
	in millions			
<b>Predecessor:</b>				
Restructuring liability as of January 1, 2016	€ 46.4	€ (0.9)	€ 0.4	€ 45.9
Restructuring charges (a)	9.8	0.9	—	10.7
Cash paid	(31.3)	(0.4)	—	(31.7)
Other	0.8	0.9	(0.4)	1.3
Restructuring liability as of December 31, 2016 prior to the closing of the JV Transaction	<u>€ 25.7</u>	<u>€ 0.5</u>	<u>€ —</u>	<u>€ 26.2</u>
<b>Successor:</b>				
Restructuring liability as of December 31, 2016 after the closing of the JV Transaction	<u>€ 30.7</u>	<u>€ 0.5</u>	<u>€ —</u>	<u>€ 31.2</u>
Current portion	€ 26.4	€ 0.5	€ —	€ 26.9
Noncurrent portion	4.3	—	—	4.3
Total	<u>€ 30.7</u>	<u>€ 0.5</u>	<u>€ —</u>	<u>€ 31.2</u>

- (a) Restructuring charges primarily relate to certain reorganization and integration activities, due in part to the formation of the VodafoneZiggo JV.

**(13) Commitments and Contingencies**

***Commitments***

As further described in note 11, we have commitments related to the JV Service Agreements. Additionally, in the normal course of business, we have entered into agreements that commit our company to make cash payments in future periods with respect to programming contracts, purchases of customer premises and other equipment, network and connectivity commitments, non-cancellable operating leases, and other commitment. The following table sets forth these commitments as of December 31, 2018:

	<u>Payments due during:</u>						
	<u>2019</u>	<u>2020</u>	<u>2021</u>	<u>2022</u>	<u>2023</u>	<u>Thereafter</u>	<u>Total</u>
	in millions						
JV Service Agreements (a)	€ 170.0	€ 147.2	€ 111.8	€ 111.3	€ 30.0	€ 60.0	€ 630.3
Programming commitments	111.5	95.4	44.9	0.4	—	—	252.2
Network and connectivity commitments	59.1	43.3	39.0	27.7	16.3	50.4	235.8
Purchase commitments	222.8	1.0	1.0	—	—	—	224.8
Operating leases	30.2	28.8	24.7	16.2	15.3	46.8	162.0
Other commitments	20.4	14.8	6.9	3.3	—	—	45.4
Total (b)	<u>€ 614.0</u>	<u>€ 330.5</u>	<u>€ 228.3</u>	<u>€ 158.9</u>	<u>€ 61.6</u>	<u>€ 157.2</u>	<u>€ 1,550.5</u>

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- (a) Amounts represent fixed minimum charges from Liberty Global and Vodafone pursuant to the JV Service Agreements. In addition to the fixed minimum charges, the JV Service Agreements provide for certain JV Services to be charged to us based upon usage of the services received. The fixed minimum charges set forth in the table above exclude fees for the usage-based services as these fees will vary from period to period. Accordingly, we expect to incur charges in addition to those set forth in the table above for usage-based services. For additional information regarding fees related to the JV Service Agreements, see notes 5 and 11.
- (b) The commitments included in this table do not reflect any liabilities that are included in our December 31, 2018 consolidated balance sheet.

Programming commitments consist of obligations associated with certain of our programming contracts that are enforceable and legally binding on us as we have agreed to pay minimum fees without regard to (i) the actual number of subscribers to the programming services or (ii) whether we terminate service to a portion of our subscribers or dispose of a portion of our distribution systems. In addition, programming commitments do not include increases in future periods associated with contractual inflation or other price adjustments that are not fixed. Accordingly, the amounts reflected in the above table with respect to these contracts are significantly less than the amounts we expect to pay in these periods under these contracts. Historically, payments to programming vendors have represented a significant portion of our operating costs, and we expect that this will continue to be the case in future periods. In this regard, during 2018, 2017 and 2016 the programming and copyright costs incurred by our operations aggregated €322.4 million, €333.6 million and €350.1 million, respectively.

Purchase commitments include unconditional and legally binding obligations related to the purchase of customer premises and other equipment.

Network and connectivity commitments include commitments associated with (i) fiber leasing and (ii) certain operating costs associated with our leased networks.

Other commitments primarily include sponsorships, certain fixed minimum contractual commitments associated with our agreements with municipal authorities and network and connectivity commitments.

In addition to the commitments set forth in the table above, we have commitments under (i) derivative instruments and (ii) multiemployer defined benefit plans, pursuant to which we expect to make payments in future periods. For information regarding our derivative instruments, including the net cash paid or received in connection with these instruments during 2018, see note 6.

We have established multiemployer benefit plans for our subsidiaries' employees. The aggregate expense of our matching contributions under the multiemployer benefit plans was €42.8 million, €42.3 million and €26.2 million during 2018, 2017 and 2016, respectively.

Rental expense under non-cancellable operating lease arrangements amounted to €30.4 million, €33.0 million and €16.6 million, during 2018, 2017 and 2016, respectively. It is expected that in the normal course of business, operating leases that expire generally will be renewed or replaced by similar leases.

***Guarantees and Other Credit Enhancements***

In the ordinary course of business, we may provide (i) indemnifications to our lenders, our vendors and certain other parties and (ii) performance and/or financial guarantees to local municipalities, our customers and vendors. Historically, these arrangements have not resulted in our company making any material payments and we do not believe that they will result in material payments in the future.

***Regulations and Contingencies***

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Video distribution, broadband internet, fixed-line telephony, mobile and content businesses are subject to significant regulation and supervision by various regulatory bodies in the Netherlands, including Dutch and EU authorities. Adverse regulatory developments could subject our businesses to a number of risks. Regulation, including conditions imposed on us by competition or other authorities as a requirement to close acquisitions or dispositions, could limit growth, revenue, and the number and types of services offered and could lead to increased operating costs and property and equipment additions. In addition, regulation may restrict our operations and subject them to further competitive pressure, including pricing restrictions, interconnect and other access obligations, and restrictions or controls on content, including content provided by third parties. Failure to comply with current or future regulation could expose our businesses to various penalties.

We have contingent liabilities related to matters arising in the ordinary course of business including (i) legal proceedings, (ii) issues involving VAT and wage, property and other tax issues, and (iii) disputes over interconnection, programming, copyright, and channel carriage fees. While we generally expect that the amounts required to satisfy these contingencies will not materially differ from any estimated amounts we have accrued, no assurance can be given that the resolution of one or more of these contingencies will not result in a material impact on our results of operations, cash flows or financial position in any given period. Due to, in general, the complexity of the issues involved and, in certain cases, the lack of a clear basis for predicting outcomes, we cannot provide a meaningful range of potential losses or cash outflows that might result from any unfavorable outcomes.

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**(14) Segment Reporting**

We have one reportable segment that provides video, broadband internet, fixed-line telephony, and mobile services to residential and business customers in the Netherlands.

Our revenue by major category is set forth below:

	<b>Successor</b>		<b>Predecessor</b>
	<b>Year ended</b>		<b>Year ended</b>
	<b>December 31,</b>		<b>December 31,</b>
	<b>2018</b>	<b>2017</b>	<b>2016</b>
	<b>in millions</b>		
<b>Consumer cable revenue (a):</b>			
Subscription revenue	€ 1,980.3	€ 2,042.8	€ 2,089.5
Non-subscription revenue	17.8	26.6	34.7
Total consumer cable revenue	<u>1,998.1</u>	<u>2,069.4</u>	<u>2,124.2</u>
<b>Consumer mobile revenue (b):</b>			
Service revenue	669.5	744.4	30.2
Non-service revenue	215.5	128.9	4.2
Total consumer mobile revenue	<u>885.0</u>	<u>873.3</u>	<u>34.4</u>
<b>B2B cable revenue (c):</b>			
Subscription revenue	407.1	376.9	239.1
Non-subscription revenue	24.3	25.0	16.1
Total B2B cable revenue	<u>431.4</u>	<u>401.9</u>	<u>255.2</u>
<b>B2B mobile revenue (d):</b>			
Service revenue	430.8	526.9	1.1
Non-service revenue	100.0	77.5	0.1
Total B2B mobile revenue	<u>530.8</u>	<u>604.4</u>	<u>1.2</u>
<b>Other revenue (e)</b>	<u>50.1</u>	<u>46.3</u>	<u>15.6</u>
<b>Total</b>	<u>€ 3,895.4</u>	<u>€ 3,995.3</u>	<u>€ 2,430.6</u>

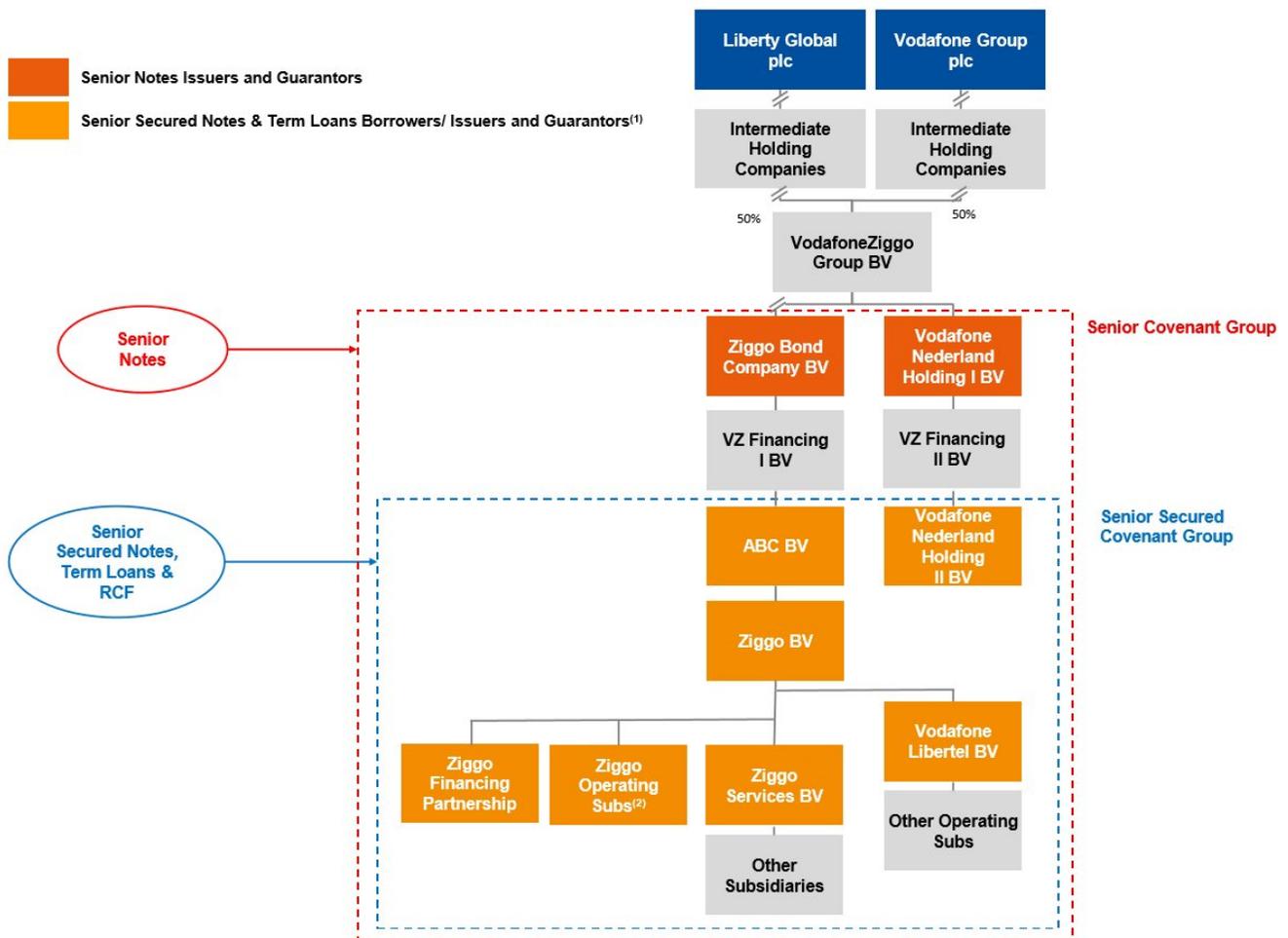
- (a) Consumer cable revenue is classified as either subscription revenue or non-subscription revenue. Consumer cable subscription revenue includes revenue from subscribers for ongoing broadband internet, video, and voice services offered to residential customers. Consumer cable non-subscription revenue includes, among other items, channel carriage fees, late fees, and revenue from the sale of equipment. As described in note 2, we adopted ASU 2014-09 on January 1, 2018 using the cumulative effect transition method. For periods subsequent to our adoption of ASU 2014-09, installation revenue is generally deferred and recognized over the contractual period as consumer cable subscription revenue. For periods prior to our adoption of ASU 2014-09, installation revenue is included in consumer cable non-subscription revenue. Subscription revenue from subscribers who purchase bundled services at a discounted rate is generally allocated proportionally to each service based on the stand-alone price for each individual service. As a result, changes in the stand-alone pricing of our cable and mobile products or the composition of bundles can contribute to changes in our product revenue categories from period to period.
- (b) Consumer mobile revenue is classified as either service revenue or non-service revenue. Consumer mobile service revenue includes revenue from ongoing mobile and data services offered under postpaid and prepaid arrangements to residential customers. Consumer mobile non-service revenue includes, among other items, interconnect revenue, mobile handset and accessories sales and late fees.

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- (c) B2B cable revenue is classified as either subscription revenue or non-subscription revenue. B2B cable subscription revenue includes revenue from business broadband internet, video, voice, and data services offered to SOHO, small and medium to large enterprises. B2B cable non-subscription revenue includes, among other items, revenue from hosting services, carriage fees, and interconnect.
- (d) B2B mobile revenue is classified as either service revenue or non-service revenue. B2B mobile service revenue includes revenue from ongoing mobile and data services offered to SOHO, small, and medium to large enterprise customers. B2B mobile non-service revenue includes, among other items, interconnect revenue, mobile handset and accessories sales and, late fees.
- (e) Other revenue includes, among other items, programming and advertising revenue and revenue related to certain personnel services provided to Vodafone and Liberty Global.

**APPENDIX**

The following chart provides our simplified corporate structure after giving effect to certain mergers and transactions that were completed during 2018:



(1) Not all senior secured guarantors are depicted  
(2) Not all operating subsidiaries are senior secured guarantors